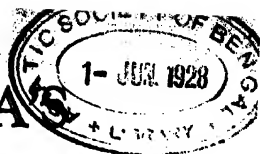




THE AUTHOR, AFTER BEING RELEASED BY MONGOLS AT JI-JI-HO.

ACROSS ASIA SNOWS AND DESERTS



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With an Introduction by
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Sixty-five Illustrations



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ACROSS ASIA'S SNOWS AND DESERTS

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by
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To
FLORENCE H. MORDEN
My Wife
GOOD SPORTSMAN AND TRUE COMRADE

INTRODUCTION

ON a cold winter morning William J. Morden and I sat at breakfast in the University Club, Chicago. He had risen at half past five to spend two hours with me as I passed through the city on a flying lecture trip in the middle west.

I was leaving for Central Asia in March. "Bill" Morden wanted to go too. But he did not want to go with me. He is a naturalist-sportsman who has shot strange beasts in many strange corners of the world, but ever in his mind was the lure of the high Pamirs, the home of *Ovis poli*, the greatest of all wild sheep.

Kermit and Theodore Roosevelt had just reached India with a splendid group of *Ovis poli* for the Field Museum of Natural History, Chicago. Morden wanted to get a similar group for the American Museum of Natural History, New York. But he had a bigger plan than merely to collect sheep. He wanted to supplement for the American Museum the zoological collections of the Central Asiatic Expeditions, which I had been leading into the Gobi Desert. For us, there existed a zoological gap between the Himalaya and Chinese Turkestan; a gap which my expeditions could not fill. The Roosevelts had done much toward completing this gap, and had done it

splendidly, but their collections would all go to the Field Museum and were not large enough to warrant extensive exchanges with other Museums. The plan which gradually took shape through the blue smoke of our cigarettes at that early morning breakfast in Chicago contained all the romance and adventure of a motion picture scenario.

Morden hoped to have as a companion James L. Clark, Assistant Director of the American Museum, an old friend of mine and a keen sportsman. They were to go to India *via* London, cross the Himalayas as soon as the passes were open, and shoot in the Russian Pamirs. After obtaining a group of *Ovis poli* they were to make their way along the Thian Shan mountains to Hami at the eastern end of Chinese Turkestan.

I was to go to China *via* the Pacific and with the Central Asiatic Expedition cross fifteen hundred miles of desert. We were to join each other at Hami on September 1, 1926.

It sounds like a wild plan to sit in a Chicago club and casually make a date to meet on a certain day in the very center of Asia, thousands of miles from a railroad. For Morden it meant toiling over snow filled passes and the highest mountains of the earth; for us it meant crossing miles of unmapped desert. But there were essential human elements of mutual trust, and confidence in ability, which entered into the compact—without them it would have been a wild escapade.

We parted and the plans matured as arranged. Morden and Clark crossed the Himalayas, obtained their sheep and started into Chinese Turkestan.

But before they left the last wireless station I had had to inform them that my part of the project could not be carried out.

When I arrived in China I found the usual war in progress. McKenzie Young met me in Tientsin and we drove to Peking over a road mined in thirteen places and made a chaos of ruts and hollows by heavy guns and retreating soldiers. No trains were running. Peking was isolated.

Time after time we tried to get the Expedition through the hundred and twenty-five miles to Kalgan, the gateway to the Great Plateau. We were shot at with rifles and machine guns, bombed by airplanes and finally had to admit that the Expedition must be postponed.

But Bill Morden and Jimmy Clark were toiling onward into the Thian Shan Mountains. Our last wireless message from them said that they were going on regardless of our failure to meet them; they would cross Mongolia and emerge at Urga.

The message caused grave concern to us in Peking. We knew the country they were planning to cross on camels better, perhaps, than any other men. We knew its heat and thirst and cold and blizzards; we knew its bandits and its wild Mongol soldiers. But it was too late for us to protest—they were beyond the reach of wireless. We could only hope and pray for their safety.

The fact that they did reach the Trans-Siberian Railroad safely tells more to one who knows the deserts of Asia than it can hope to convey to most of those who read this book. To me it means a record of unflinching courage and great endurance; a

record of tact and diplomacy without which courage alone would have been of no avail.

They endured torture and were very close to death, but they brought out their collections and records safely. They have made one of the great journeys of Central Asia, a journey of which we, as Americans, may well be proud.

ROY CHAPMAN ANDREWS.

PEKING, CHINA,

May 15, 1927.

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ACROSS ASIA'S SNOWS AND DESERTS

ACROSS ASIA'S SNOWS AND DESERTS

CHAPTER I

INTO ASIA TO PROVE A THEORY

FOR a week we had scanned the mighty barrier of the Himalaya from where our houseboat lay beside the *ghat* at Srinagar. Every morning when we awoke we peered forth at the towering, snow-clad summits, and reported to each other every storm cloud that hovered over that titanic range. Every evening, in the moonlight, we looked again—happy if the sky were clear—fearful if the lowering clouds hung threateningly in the passes. Three years of plans and preparations lay behind us, and the mountains lay ahead, for only by crossing their difficult passes could we prove or disprove the theory that had brought us there—a theory which I had advanced, and in which, apparently, I alone had confidence.

In 1923 I had hunted throughout Kashmir and Ladakh, and had gone northward into Baltistan. It was then that I began my queries concerning *Ovis poli*. These remarkable sheep, first reported by Marco Polo seven hundred years ago, had come

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to be accepted as rare and almost mythical animals. That they existed was known, of course, but that they existed in numbers was anything but certain. Their range lay in the Pamirs—that elevated district sometimes called “the roof of the world”—which, of course, was beyond my reach as I hunted in northern Baltistan. Still, I met a few native hunters who had been there, and I talked with white men, as well, who had reached the Pamirs through Gilgit and Hunza, or had traversed the mountains by the longer and more travelled route that lies to the north of Leh, and leads through the Karakoram Pass.

But question as I would, every report I received dwelt upon the rarity of *Ovis poli*. It began to seem that these beautiful animals were actually approaching extinction—that the few that were left could never hold out against the wolves, against the epidemics of which I heard vague rumors, and against the guns of native hunters and occasional visiting sportsmen.

To bear all this out, the heads that had been brought out during the preceding fifteen years had certainly been small. Not one had come across those passes but seemed to prove that the day of *Ovis poli* had passed—that soon these beautiful animals with the spiral horns would definitely become extinct.

It was not a pleasant prospect, and it bothered me. I thought about it and talked about it at every opportunity. I examined maps and talked with old Kashmiris. I cross-examined every man I met who had visited the Pamirs, and gradually I began to



THE JHELM RIVER AT SRINAGAR IN THE VALE OF KASHMIR.



LOADING THE EXPEDITION'S SUPPLIES AT THE GHAT AT SRINAGAR.

realize that not a single report had come to my ears save from the Tagdumbash Pamir, in Chinese Turk-
estan. Only now and then some vague account told
me of more distant sections.

The Pamirs spread from Chinese Turkestan over
the Russian border, and southwestward into Afghan-
istan. These high valleys cover thousands of square
miles, and lie mostly within Russian Turkestan, a
land which has been military territory for years—
a land which at that time had not been visited by
an outside scientific expedition in almost a score of
years. That thought interested me. Was it not
possible, I wondered, that these sheep, which un-
doubtedly are as clever as other similar animals,
might have crossed the range separating Chinese
from Russian Turkestan, in order to get away from
their enemies? Or, what is more likely, those seen
in the Tagdumbash might have been stray bands
from the larger district to the west. Would that
not explain the presence of a few scattered sheep
on the Chinese side of the border? Would that not
explain the small heads that had come down to India
in recent years? For almost no one had hunted
for them save in the Tagdumbash Pamir. Not once
in a decade and a half had a single expedition crossed
the international border into Russian territory in
search of these magnificent animals. Why was it
not possible that, in that remote and prohibited dis-
trict, *Ovis poli* existed in larger numbers, protected,
as they were, by the size and conformation of their
range, from all enemies save crudely armed natives
and the few wolves that were said to roam that
rocky, treeless land?

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It sounded possible, and I determined to make an effort to penetrate those elevated valleys—to see whether or not the beautiful animals were actually approaching extinction or whether, as I believed, they were holding their own in the land in which Nature had placed them.

It was not an easy task that I had given myself, but I did not guess just how difficult it would be. The result was that though I began to make plans in 1923, it was not until March 30, 1926, that we left Srinagar, in the Vale of Kashmir, and advanced the first step on a journey that took us eight thousand miles in the next nine months, across a land which is viewed by the outside world as one of the harshest and most difficult on the face of the earth.

Fortunately, when I was in India in 1923, I had become acquainted with a number of English gentlemen but for whom my plans could hardly have been carried out. Sir Frederick O'Connor was one of these, and General the Honorable C. G. Bruce was another. Through their kindness, and through that of Sir Denys Bray, Secretary of the Foreign and Political Department of the Government of India, I was able to obtain permission to cross the Himalaya via the route leading over the Burzil Pass and through Gilgit and Hunza. This saved us many weeks and made it possible for us to reach the home of *Ovis poli* before they had shed their winter coats—a highly desirable thing, for while there were specimens of the sheep in their summer pelage already in the museums of the world, few in winter coats had been brought out for scientific purposes.

In working out the various problems confronting me, I mentally went over the list of explorers and scientists who were specializing in Asia. Among their names that of Dr. Roy Chapman Andrews was pre-eminent. Nearly two years after I had first become interested in making the journey I met Andrews in Chicago. Having outlined my ideas to him I was fortunate in securing his immediate interest. At that meeting a plan was formed. Briefly, it was that I, with a companion, should leave Kashmir in April, 1926, travel northward across the Himalaya and Karakoram ranges, collect as complete a series as possible of *Ovis poli* in the Russian Pamirs, and proceed northeastward to the Thian Shan. In the meanwhile, the Central Asiatic Expedition under Andrews' leadership would have left Peking for Mongolia and would have reached its field of operations in the western Gobi. By the latter part of August we would be within about a thousand miles of each other and a quick dash on the part of each would enable us to make contact. We fixed upon the little town of Hami in eastern Chinese Turkestan as a meeting point and set September first as the date.

In some ways the plan seemed rather wild; in others entirely feasible. To me the wild part, or rather the uncertain part, was the question of my ability to do the work and cover the distance I contemplated. Andrews was very definitely taking a chance on an unknown man; I was not, for his reputation as a determined leader was accepted everywhere. Granted that internal conditions in China allowed his expedition to take the field, I knew he

would be at Hami on September first. And needless to say, I was deeply appreciative of his confidence in my ability.

It was through Roy Andrews that Professor Henry Fairfield Osborn, President of the American Museum of Natural History, became interested in my plans and generously gave them the official backing of the Museum. Not only that, but at my request he detached James L. Clark, the Assistant Director of the Museum, in order that he might accompany me. Thus was born the Morden-Clark Asiatic Expedition of the American Museum of Natural History.

Clark was the man of all others whom I wanted as a companion, for not only was he by training and experience eminently qualified for the work, but also he was a most delightful companion. Without him the expedition would have accomplished far less than it did. As regards Clark the man, I can only say that after nine months in the field, sometimes under extremely trying conditions, we arrived in Peking better friends than when we started.

The Russian Pamirs were our major goal, but to visit that district required permission from Moscow. How to obtain the essential permits was a problem. To solve it I lay awake more than one night, for the difficulty was doubled by the fact that the Russian Pamirs are military territory. Permission to visit them is not readily obtainable, and only with the best of recommendations is it possible to break through the tangle of officialdom that surrounds them. I thought long and carefully over the problem, and finally decided that I could not do better than to see Senator William E. Borah and obtain

from him, if possible, an open letter stating our plans and objects, and giving his personal approval of them. Nor was I wrong. Never was a letter used to better advantage than was the one which Senator Borah wrote for us. Many times in the succeeding pages I shall have occasion to refer to it, and many times, as will be seen, it served us far better than we had ever imagined possible.

Through the courtesy of Mr. Alfred Sze, the Chinese minister in Washington, we obtained passport visas and an arms permit for Chinese Turkestan, the latter having been issued by the Ministry of War in Peking. With that accomplished, we outfitted in New York and London, and having obtained from Mr. Rakofsky, Soviet Ambassador in Paris, Russian visas and an official permit for us to enter and operate in the Russian Pamirs, we landed in Bombay on March 19, 1926. A week later we were at Srinagar, surrounded by the beauties of the Kashmir spring—delighted to be at our actual jumping-off place—keen to be on our way to the home of Marco Polo's sheep.

On arriving at Bombay I had gone direct to Delhi, and there, through the courtesy and consideration of Sir Denys Bray, the requisite last minute details were arranged. I obtained the advice of experienced travellers, and left for Srinagar having been treated with the utmost kindness by every British official whom I had seen. Furthermore, as we advanced along our route, and met, from time to time, British officers of various services, we were invariably the objects of the same consideration. I have the most pleasant memories of kindnesses performed by utter

strangers, who, whenever and wherever we met them, seemed delighted to see us and to do everything within their power to aid us.

Throughout the whole of our wanderings in Asia, we were invariably welcomed and assisted most cordially by the British; we were received with the utmost courtesy and kindness by the Chinese, and were met equally well by every Russian, official and otherwise, with whom we came in contact. We were the recipients of many favors, and save for our disagreeable experiences in Mongolia, in which neither British nor Chinese nor Russians played any part whatever, all the officials we met were remarkably considerate.

It was at Srinagar that our last preparations were made. The city lies in the heart of the Vale of Kashmir, with snow-clad mountains towering impressively on the horizon, with the sunlight striking through the trees along the river and glinting on the smoothly-flowing Jhelum, with quaint old buildings crowded comfortably together along the river banks, and pine-clad hills stretching away in rounded contours to the serried peaks beyond. We lived aboard an ornate native houseboat instead of taking rooms in the out-of-the-way hotel, and there on the landing place we gathered together the last of our supplies.

Srinagar is two hundred miles from the nearest railroad—a distance we had covered comfortably over a beautiful motor road in an American car, while our supplies had followed us in a lorry hired for the purpose. Once arrived, we were received with the utmost kindness by Sir John Wood, the British

Resident. Both he and Mr. Gould, the First Assistant Resident, were vastly interested in our plans, and through them we learned more about the difficulties confronting us. Major Bird, too, the Supply and Transport Officer, busied himself immoderately in our behalf, for we were planning to cross the Burzil Pass fully a month before it would safely be open for the season.

Mr. Thad Avery, an old friend of mine, and Captain Sevenoaks, manager of Cockburn's Agency, made the necessary arrangements for our coolies and helped us pack our belongings into the standard sixty pound loads, for before the season opens the Burzil can be crossed only with coolies, and sixty pounds is the customary limit for one man. Furthermore, they chose the native hunter—the *shikari*—who was to be our chief of staff, and hired the six other Kashmiris who were to accompany us.

Of these seven men, Hassan Bat was the chief. Upon his excellence or lack of it, our success would largely hinge. He was a tall, thin fellow, who spoke English fairly well, and because of his lined and pockmarked face, looked as serious as he really was. While Hassan Bat was the most important of our followers, we rated Rousla, the cook, a close second. Being typical Kashmiris, all of the seven had typical Kashmiri failings, and more than once they got dreadfully on our nerves. But certain it is that they were willing, and we had occasion because of them to congratulate ourselves later and to thank Avery and Sevenoaks, who had gathered them together for us.

Owing to the sparseness of the population of the

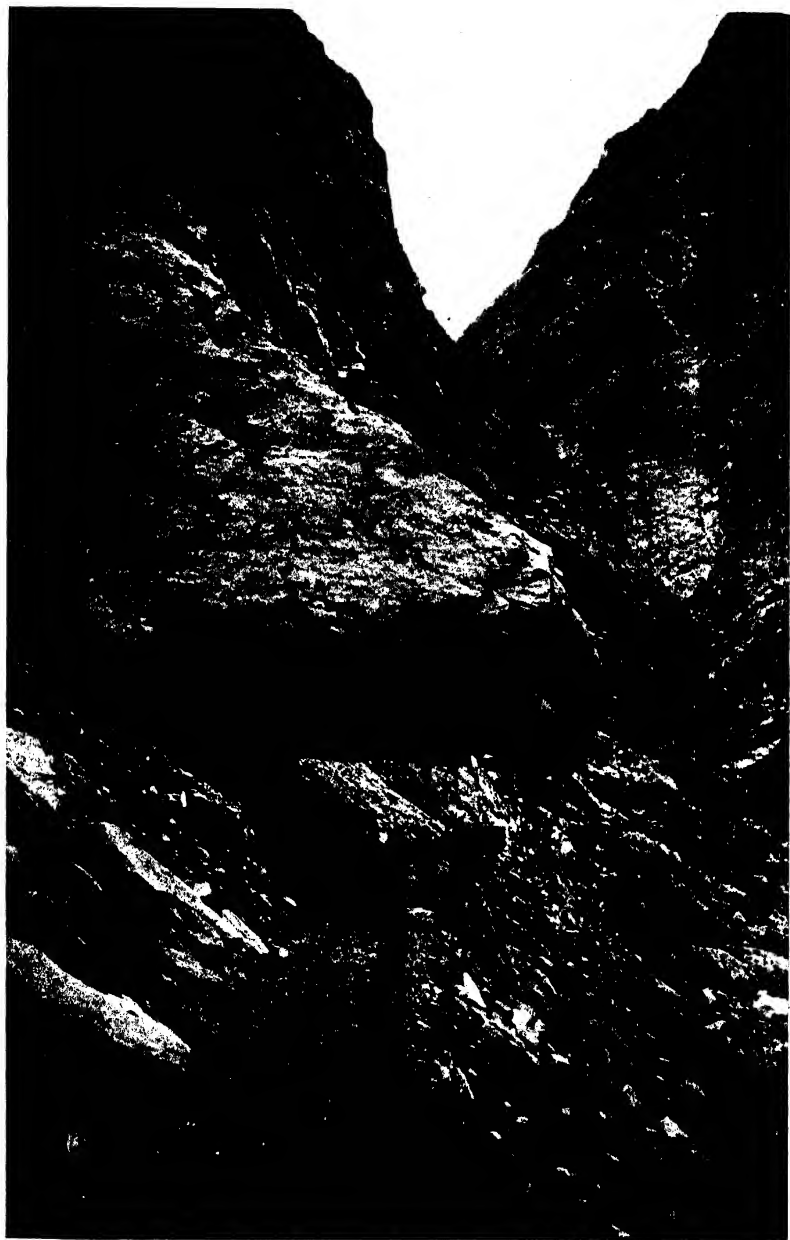
districts around Gilgit and Hunza we had been requested by the officials to keep our transportation requirements down to sixty coolies, but by the time we had packed our goods, we found that we had seventy-two sixty-pound packs. So, with the utmost care, we went over everything again, discarding this and that until we managed to get the total down to sixty-three loads. Then, thanks to Major Bird, we made arrangements to purchase Government rations for our staff at Gilgit, which lies beyond the pass, and so we saved ten loads more.

Every morning, and at odd times during the day, we watched the storm clouds gather and disperse over the mountains. Should we find ourselves in one of those glowering storms while struggling through the snow along an unbroken trail, it might prove to be serious. We were urged to hold off our start until a part of the snow on the mountains had melted, for avalanches are sudden and destructive in the precipitous valleys leading toward the pass. But to wait meant that we would be unable to reach the range of the *Ovis poli* until their winter coats were shed, and so we kept on with our preparations.

It was our plan first to enter the Pamirs and obtain our specimens of the *Ovis poli*. Then we were to go on to the Thian Shan in order to obtain ibex and any other specimens for which there might be time. With that behind us, we were to dash eastward to Hami, over a thousand miles away, in order to meet Roy Andrews. A part of the country through which we planned to pass had not been visited for years by any museum expedition, and we



COOLIES ON THE BURZIL PASS. THE T-SHAPED STICKS ARE USED TO SUPPORT THE LOADS DURING SHORT PAUSES FOR REST.



ON THE GILGIT ROAD.

Due to the sparseness of the population in the Gilgit-Hunza district few expeditions are permitted to use this trail. The population is so limited that only with difficulty can coolies be obtained.

hoped to obtain specimens that would fill a blank place in the collection of Asiatic animals already owned by the American Museum. Furthermore, Clark, as head of the Division of Preparation, would be able to procure first-hand information to be utilized in the backgrounds of the animals to be mounted.

It was into the vast heart of Central Asia that we were bound—the center of the continent across which once swept those tremendous migrations that served to intermingle the peoples now inhabiting all the enormous stretch of territory between the ancient cities of China and the highly civilized centers of Western Europe. Where now are to be found wide deserts and endless wastes, with here and there an oasis, once dwelt hordes of warlike peoples whose movements influenced the whole course of history. The dim trails that serve today only to guide rare caravans across practically depopulated deserts, once played the part of highways thronged with fierce and virile warriors.

Jenghiz Khan once ruled this rugged land and led his warriors over it. Ogdai and Tamerlane fought and massacred its people. Kublai Khan, less fierce and bloodthirsty than his predecessors, led hundreds of thousands of his fighting men and left behind him as he marched a wide swath of conquered and reorganized cities. Millions of the inhabitants of those Central Asian valleys have, in the course of a long and bloody history, perished by the sword. Whole districts that once supported large populations have been laid waste and now yield to the struggling archeologist mere hints of the bloody

past. And long before these fierce military monarchs marched and countermarched from the Yellow Sea to the Adriatic, Turkestan probably served as the original homeland of the Aryan race—the land in which, perhaps, our own prehistoric forbears first raised themselves from simple savagery toward civilization and our present day dominion over practically all the earth.

Seven hundred years ago Marco Polo, in one of the most extraordinary journeys ever made by any man, wended his long way eastward to the palaces of the Great Khan, and ultimately, years later, made his way back again to his incredulous people, who, despite his jewels and his other proof, could not believe the tales he had to tell. Since then many other adventurers have penetrated to portions of that rocky land. Kipling's story of *The Man Who Would Be King* fictionizes it. Now and then explorers have ventured to encroach upon its secrets, and much valuable information has been published, and yet, when we were asking questions as to what lay beyond those snowcapped mountains, there was little definite information to be had. Vague replies came to us. Half answers were given to our questions. Hints were dropped and half-beliefs were told to us by natives. Now and then a definite account came from a trustworthy source, but more often the accounts were hazy. Were the natives hostile? Who could say with certainty? In the oases of Kashgaria, certainly, they were not. Concerning other districts reports varied. We heard tales of occasional white men who had disappeared and had never again come back. Along the caravan routes in

Turkestan there was no danger, but what we might meet in less known districts off those travelled but poorly marked ways no one could tell.

British officers on leave had often pushed into the interior and had returned. But the length of time ordinarily granted to a military man is not enough in which to travel far in Central Asia. We were planning to meet Andrews in five months and reach Peking in six. But there was a possibility, because of the civil war in China, that Andrews would be unable to take the field. Under those circumstances was there a feasible route by which we could continue—feasible for white men with hundreds of pounds of valuable equipment and priceless specimens? Some assured us that we would make it readily enough. Others, just as well informed, tried to hold us back—told us of difficulties in our way. Even when we were ready to leave the beauties of Kashmir for the forbidding mountains to the north, we still were uncertain on a hundred important points. True, the remarkably successful Roosevelt Expedition had just returned from the Thian Shan and had covered our route that far. We had met the Roosevelts in London while they were on their way back and we were bound for Asia. They gave us the information they had collected, and it helped us enormously. But we were to begin the second portion of our journey in Central Asia from the point which had been the Roosevelts' goal, and were also to penetrate the Russian Pamirs. What conditions would we be likely to meet there? Beyond the Thian Shan what would we find? Answers to those questions were vague. We did not know.

On the difficulties of the Burzil Pass, however, there was plenty of evidence. We were the first to attempt it in the spring of 1926. Furthermore, we were a month ahead of what might prove to be a reasonably safe time to start. Yet, should we delay that month, our whole schedule would be hopelessly upset, and we would find ourselves unable to carry out the plans that we had made, or to meet Roy Andrews at the time that we had set. There seemed no choice, and so we made ready. Once more we went over our kit. We weighed and re-weighed packs. We discussed our plans with Hassan Bat, with Avery and Sevenoaks, with Sir John Wood and Mr. Gould and Major Bird. And always we kept our eyes upon the black clouds that swept periodically across those snowy summits to the north—mentally pushing them back as they made their remorseless descents upon the passes. The snow lay deep upon the mountains, and stretched unusually far down their steep sides. The winter, we were told, had not been severe, but the snows had come late and the white blanket lay deep in the valleys and clung precariously to the heights above. Avalanches were the gravest danger that we faced during the first stage of our journey. But what lay beyond that mountain range? Some things we knew, and those were provided against. As for the rest, we could only theorize and hope. We had done everything we could. Our friends had done everything in their power—far more than we had expected. The time had come for us to go—first a little way by boat, and then upward through the snow toward the Burzil. For the time when we should cross the pass we had plans,

but those, we knew, were subject to radical change without notice.

We looked closely at the mountains just before we went to bed on that last night we spent at Srinagar. They lay clear in the moonlight, without a single cloud to mar their beautiful immensity. We hoped that that might be a portent in our favor.

CHAPTER II

NORTH FROM THE VALE OF KASHMIR

THE last rush of packing over, we boarded a small houseboat at the *ghat*, or landing stage, and began our long journey with a peaceful ride down the Jhelum River through Srinagar, the charming old capital of Kashmir. On the banks, ancient houses leaned crazily in every direction, their sod roofs green with long grass and bright with occasional blossoms. Picturesque bits of native life on the river and at the many landing stages caught our eyes as our *dunga* glided slowly by, while tradesmen came alongside in their little craft, hopeful of a last sale.

We left Srinagar behind us at last, and floated down the still river on a gorgeous moon-lit night, with distant ranges showing dimly white and occasional Kashmiri songs sounding plaintively from the dark shores. In the morning we were not far from the end of the first stage.

Bandipur, a small village at the far side of Wular Lake, was to be our actual jumping-off place, and it was there that our first coolies were engaged. At the Engineer's bungalow we against sorted loads, for it was found that the silver, or "hard money,"

which it had been necessary to bring in order to pay for local transport and supplies, weighed an even one hundred and twenty pounds. The stowing of this in various boxes brought their weight above the limit of sixty pounds each, so shifts of stores and equipment had to be made to care for the additional weight.

After May fifteenth, the official opening date for the Gilgit route, rates for coolie hire are fixed by the Kashmir Government, but as we were starting a month and a half before that time, we had to make our own arrangements with the coolies. We had been told at Srinagar that there might be difficulty in persuading men to attempt the crossing of the passes so early in the season, but when it was known at Bandipur that we needed transport, a mob of fully a hundred and fifty presented themselves. They crowded onto the verandah of the bungalow and several times we were forced to clear the place before the necessary sixty could be picked. Eventually all loads were assigned and we were able to start. Tragbal, four thousand feet above Bandipur, was reached after a stiff climb of six hours, during which we found ourselves even softer than we had supposed.

Although known officially as the "Gilgit Road," no wheeled vehicle has ever traversed the winding pony trail which leads over the Himalaya from Kashmir to Gilgit. The road is maintained by the Kashmir Government and over it are transported, in summer, all the supplies for the small garrisons in Gilgit. During winter the route is closed to travel and only hardy dak-runners, or mail-carriers, brave

the storms of the passes. At each stage along the route the Government has built rest houses, and these small stone buildings are a great help. They are sturdy shelters where one may have fire and rest after the day's hard work.

The Tragbal, or Razdhainangan, is the first pass encountered on a northward journey from Kashmir and it is a very easy one in summer, for then a wide pony trail leads by easy grades over grassy hills to the summit. Early in the season, however, the winter trail follows the telegraph line straight up mountain sides and across great snow fields which present difficulties to test the endurance of the most hardy traveller.

The usual footgear for crossing snow-passes, used by natives and "sahibs" alike, are the Kashmiri grass-shoes, ingenious sandal-like affairs made of rice straw twisted into ropes. Natives often wear them over bare feet, but less hardened travellers first put on a pair of specially made, light woollen socks, then a pair of quilted woollen shoes; both socks and shoes have the big toes separated from the others and strands of the grass rope pass between them. At first their strangeness makes one a bit awkward but as soon as confidence is gained, grass-shoes are excellent footgear on snow and rocks.

It was two thirty on a beautifully clear morning when we started upward from Tragbal rest house. A full moon illuminated every object and threw the tall spruces into deep shadows; neighboring peaks stood out, clear-cut and silvery, and one could even look down into the Vale of Kashmir, where Wular Lake was dimly outlined in the moonlight.

Our coolies had started a few minutes ahead of us, but we soon passed them resting in small groups. Kashmiri coolies carry T-shaped sticks on which they support their packs when resting, a device which obviates the necessity of sitting down during short halts, with the attendant effort of getting to their feet. Our men took frequent rests in this manner.

There was a path of sorts, which had been made through the drifts by the dak-runners, but it was narrow and difficult to follow. We found we had to keep our eyes constantly on the trail; even a glance aside while walking was apt to plunge us into deep snow. It was hard work, for the usual stride of the Kashmiri coolie is very short, and the packed trail was so rough that one had to step exactly in the frozen footprints or the labor was fully doubled. Though the temperature was low when we started, the air was quiet, but as we neared the top a biting wind made it necessary to protect our fingers and ears. The summit of the Tragbal by the winter trail is somewhat higher than the 11,586 feet of the pony road and is quite enough to make hard work for men fresh from the plains.

Dawn came as we neared the top and a glorious spectacle made us pause. Southward, beyond the Vale of Kashmir, rose the peaks of the Pir Panjal and Kajnag ranges, all pink and lavender, while deep purple shadows showed where the valleys lay. Haramok, a jagged rock mass to the east, stood boldly outlined against the sunrise, with rays of light striking across the sky above it. We stood lost in admiration for several minutes, until the approach of the sun warned us to don our snow glasses and

continue if we did not want exceedingly hard work after the snow had softened.

Beyond the summit a steep descent to a partly snow-covered valley brought us to Koragbal rest house, fifteen miles from Tragbal. We were quite content not to be forced to go farther that day.

When we awoke next morning it was snowing hard, so our start was delayed until daybreak. The fourteen-mile march to Gurais was for much of the way through snow three feet deep, and as it was soft, it was again necessary to follow in the footsteps of those ahead.

In places there were slides and drifts across the trail and where there was no snow, the mud was deep and very slippery. Our feet were constantly chilled, for the muddy water went through the woollen socks under the grass-shoes and thoroughly soaked them. It was interesting to note, however, that our feet warmed up when we again struck snow, probably because the snow was not wet enough to penetrate the wool and our feet warmed the moisture already in the socks.

Coolie transport on the Gilgit Road is hired for from one to three stages only, so at Gurais we paid off our Bandipur men and obtained new ones for the onward journey. The new men were all sturdy looking chaps who were to go with us beyond the Burzil.

In March and April the famous Burzil is one of the most dreaded passes of Asia and thoroughly deserves its reputation. Over thirteen thousand feet in height, the approach to it is up a valley where the mountain sides are perfectly formed for avalanches.

These are even more dangerous on the approach than on the Pass itself, for the steep heights above start small snow slides which gather volume and momentum as they descend. In the few moments it takes these cascades of ice and snow to reach the valley, they become irresistible, and carry everything before them. To avoid this danger as much as possible, it is necessary to start at night and travel rapidly before the sun's warmth has loosened the threatening masses of snow on the mountains. Besides avalanches, sudden snow-storms, accompanied by violent icy winds, are of common occurrence on the Burzil in spring.

All travellers venturing across the Burzil before the middle of May are warned that they do so at their own risk. We were told in Srinagar that our caravan of coolies would probably not be able to cross for several weeks, but we hoped that by the time we reached the Burzil, after four days from Bandipur, we might be able to take advantage of a bit of fair weather and make our way over the Pass.

The weather remained unfavorable, however, and at Peshwari we were faced with the prospect of having to remain until the storm ceased. From Peshwari to Burzil Chauki at the foot of the Burzil Pass there is great danger from avalanches, and the march can only be made in good weather. When we went to bed at Peshwari there seemed little chance of our getting away for several days. At two o'clock, however, a light wind drove away the clouds and the temperature dropped, which made a start possible.

From Peshwari to Burzil Chauki, though but

eleven miles, was a hard day's work, for the snow was deep and soft and the grade constantly stiffened. At Minimarg, a little telegraph station and post-office just half way, the Burzil valley turned sharply north and widened to about eight hundred yards. We crossed many old slides both before and after Minimarg and were constantly urged onward by our guides, for as I have said, the approach to the Burzil is one of the most dangerous parts of the route. For the last five miles the reflection of the sun from unbroken expanses of snow burned our faces badly, and though the air was still cold, we found it very hot work. We were glad to reach the rest house at Burzil Chauki a little after midday.

Three o'clock the next morning saw us plodding upward by lantern light. The Burzil Pass, which begins just above the rest house, is a long narrow valley between steep mountain sides, where snow accumulates to great depths. Owing to storms, dak-runners had not crossed for several days, and though a dim path showed in places, for much of the way there was no trail. Our party was forced to struggle through these deep drifts, which so accentuated the labor of climbing that we had to take turns at breaking trail. A bitterly cold wind blew down the pass and the fine frozen snow stung our faces like tiny needles.

At dawn we passed a little shelter hut, perched on a light steel tower thirty feet above the snow. It was said to be for the use of dak-runners and telegraph repair men, and we were told that when the drifts were gone in summer, the cabin stood over fifty feet from the ground. Snow lay everywhere;



KUNJUTIS—NATIVES OF HUNZA.



A ROUGH BIT OF TRAIL IN HUNZA.

only a few rocks near the mountain tops showed bare and bleak.

Just as the sun reached us, we arrived at the summit—13,775 feet—where a small stone hut offers shelter to travellers caught in sudden storms. There Clark discovered that he had frosted two toes rather badly, so we halted while they were well rubbed with snow.

We had hoped to find the mail-carriers' trail on the north slope but the snow there was even deeper than on the ascent. From the summit we plunged into drifts which were waist-deep and it was very slow, gruelling work to make any progress at all. In the absence of a trail there seemed little choice of routes, so we struck as directly as possible downward.

While resting on the snow we were surprised to see a small butterfly fluttering about. It looked strangely out of place in the Arctic whiteness of the surrounding mountains.

About two miles below the summit we met the upbound dak-runners. There were four men in the party, all Astoris from north of the pass. Three carried heavy bags of mail on their backs, while one man ahead travelled without a load and broke trail for the others. The leader was wearing crude snow-shoes about fifteen inches long, with flat wooden cross ribs to which ordinary grass-shoes were lashed. Though the snow-shoes were ingenious, they looked too small to be any great aid in the soft snow.

After the sun rose, the glare from the snow was blinding. Dark glasses protected our eyes to some extent, but the reflected light burned and blistered our skin until it was very painful. Handkerchiefs

tied around our faces helped somewhat, though they caused our glasses to fog so badly we could barely see. For several days after leaving the Burzil, our faces were raw and our lips blistered and cracked.

Near Sirdarkoti, a little rest house at the end of the descent from the Pass, we heard that two of the coolies had given out and we hurriedly dispatched two men back to where a long line of figures could be seen working slowly downward. The two coolies, however, had recovered and came gamely on with their loads. We learned that they had been taken with mountain sickness near the summit and had been very ill for a time. All of the men had been given snow-glasses before starting but some had broken or lost theirs and we had several cases of near snow-blindness.

We had known that we were the first party to cross the Burzil that year but were surprised to learn from the records kept by the *chowkidars*, or caretakers, of the rest houses, that we were a full month ahead of the first party of the previous year. It is no wonder that officials in Kashmir had advised us to wait, but luck had been with us and we had crossed without mishap.

The deep snow encountered on the Pass had called for such great effort on the part of the coolies that we remained at Sirdarkoti until early the following morning, when we continued on down the widening valley, past the rest house of Chillam, to the small village of Das. Ponies had been sent to meet us at Das and our Gurais coolies were paid off there, while we pushed on to Godhai, another rest house eleven miles beyond.

Although the little ponies of the Himalaya—commonly known as “tats,” from the Hindustani *tatu* or pony—are not much to look at, they carry one hundred and sixty pound loads over rough trails in a most surprising manner. We were very glad to see the little beasts after our steady foot travel, and it was a great joy to be again able to look about without the inevitable misstep. We had passed the great obstacle of the Burzil and, for the present at least, the wintry heights lay behind us.

While riding along the trail about five miles below Godhai, a tremendous mountain showed suddenly above the nearer ridges. Great ice-fields and glaciers gleamed in the sun, with jagged rock-pinnacles protruding through the white. We knew without asking that the giant before us was Nanga Parbat, 26,620 feet in height, and eighth among the mountains of the world.

For awhile the trail wound through a deep gorge which entered the valley of the Astor River a few miles below the village of Gurikot. We saw birds in increasing numbers during the march and identified sparrows, magpies, swallows, hawks and the ubiquitous crow.

At Gurikot the Astor River is crossed by a steel cable suspension bridge. The cables for the bridges along the Gilgit Road, each cable an inch in diameter and fully three hundred feet long, were brought over the passes on the shoulders of hundreds of coolies, strung out along the trail like a great snake. Transport problems such as this make one realize the truly admirable work done by the British engineers who built the difficult Gilgit Road.

From Gurikot Bridge the trail climbed several hundred feet above the valley floor, which was terraced and farmed extensively. Little irrigation ditches ran along the mountain sides, for nowhere inside the main southern range of the Himalaya is rainfall sufficient for agriculture. One little canal was carried across cliffs and around corners in hollowed logs supported by props and pegs let into the rock. It is only by the exercise of constant care and vigilance that any of the districts of Astor, Gilgit, Baltistan, Ladakh, and the little principalities of Hunza and Nagar can support their scanty populations.

The people of Astor are fond of flowers, and in summer almost every man wears a blossom in his cap. The dress of the Astori consists of a long gray woollen coat worn over very baggy trousers, and a tight-fitting round woollen cap with a roll at the bottom. During summer the people all go barefoot. Women invariably run at the approach of strangers. The few we saw were dressed in dark woollen coats and trousers, with head coverings which came down over the shoulders and often had metal ornaments sewn on the front. An Astori's house is of mud and boulders, with a flat mud roof pierced by a hole which does duty as window and chimney. The lot of these people is not an easy one, but they are better off than their neighbors in Gilgit for the Astor valleys, though small, are not so barren as those further north.

Through the courtesy of Major Bird, the Supply and Transport Officer in Kashmir, we were able at Astor to draw rations for our staff. Major Bird also

arranged for the same facilities at Bunji and at Gilgit, which materially decreased our transport requirements.

Beyond Astor the trail follows the left bank of the Astor River, rising over spurs and again descending. The valley narrows and many rock-slides on both sides make the trail hazardous in places; once we had to detour around a perpendicular drop of several hundred feet where the trail had entirely slipped away. Along that portion there was no vegetation except scattered junipers and a few pines. The rock was mostly granite, though there were places where there was a sort of solidified mud. Predominating colors were brown and red, and many rocks showed what seemed to be iron stains. Several small pools of water, in hollows of large boulders in the river-bed, looked blood-red at a distance.

A long zigzag ascent of a spur of the Hattu Pir, where the trail climbed several hundred feet in a short distance, brought us to a plain from which a glorious view of the junction of the Astor and Indus Rivers could be had. In the far distance were snowy mountains; nearer were reddish hills with scattered timber; while just below us, the Indus flowed through a shallow canyon which it had carved from the rocky soil of its valley.

The road crossed a suspension bridge over the Astor at Ramghat, after a rough descent from the Hattu Pir. In 1922 the old bridge was destroyed by a rock slide, so when the new bridge was built, some distance up stream, a second was constructed for emergency use.

Our first view of the Bunji cultivated area, seven

miles from Ramghat, was very attractive, and the shades of green were most welcome after the desert through which we had been travelling.

Through the telegraphed instructions of the Political Agent at Gilgit, the Engineer's bungalow was opened for our accommodation and we were made welcome by two pleasant young British officers stationed at Bunji. The bungalow was in a delightful garden with many fruit trees and several large chenars, the fine trees which are so beautiful in Kashmir. It must be very hot at Bunji in summer, for the rooms of the bungalow were fitted with *punkahs*, the hand-operated fans of India.

A magnificent sunset on the snows of Nanga Parbat, far down the valley, was a most glorious sight. In the words of Mr. C. P. Skrine, in his book, *Chinese Central Asia*, Nanga "appeared, framed in the mighty curves of the Indus gorges, lovely as the Taj at the end of its cypress-vista."

On a wide barren flat above Bunji we saw six sharpu—*Ovis vignei*, a variety of mountain sheep which is well distributed through the Himalaya of Gilgit, Baltistan, and Ladakh. They were the first game we had seen, and though we had no permits to shoot in Gilgit nor the time to do so we were interested to see the animals so far out on the plain. Light brown in color, they had the distinctive gait of sheep, but they did not seem particularly wild, for they remained for some time about two hundred yards ahead of our ponies.

As we topped a slight rise after about fifteen miles of almost continual desert, the oasis of Gilgit appeared below us. Well protected by surrounding

mountains and supplied with water from nearby valleys, it is a pleasant little spot, tucked away among the hills. Alfalfa, wheat, barley and apricots are the principal crops of the district, as in most of the central Himalayan region.

We were met by an orderly, sent out by Major Loch, the Political Agent, to guide us to his home, "The Agency," and we followed the man through the village. The houses were of mud bricks, usually one storied, though sometimes with a second story of woven twigs which was left open on one side and evidently served as storage space. Ladders and protruding joists made the houses look not unlike American Indian pueblos.

On our way to the Agency we passed through a small bazaar, where a number of Indian traders had tiny shops. A hospital, a barrack compound and parade ground, and a large Supply and Transport Depot where some fine-looking mules were tethered, showed that Gilgit was an important Government post.

At the Agency, a roomy bungalow in a pleasant grove above the village, Major Loch made us welcome and invited us to stay with him during the time we were in Gilgit. The Major was a charming host and our comfortable rooms seemed most luxurious after the limited accommodations of the rest houses.

The Agency household staff was excellent and we thoroughly enjoyed our short interim of good food and civilized living. At breakfast Major Loch asked how we preferred our eggs cooked and when we intimated that scrambled eggs would be very

agreeable, he turned to his servant and ordered them "Rumble-tumble." Like other Hindustani phrases, the words seemed particularly apt.

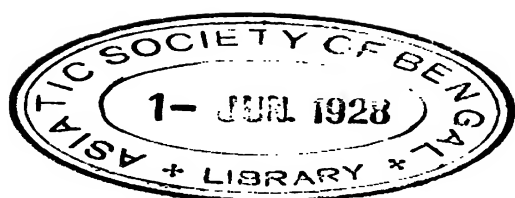
Since everything not locally obtainable must be brought on ponies over the mountains during the short open season, it was surprising to learn that, besides the ordinary household equipment, there were three pianos in Gilgit. Considering difficulties of transport and distance, the twelve white people in Gilgit and its subsidiary posts lack fewer comforts than might be expected. They all get together for Christmas, though some have to travel quite a distance for the festivities. We met several of the officers stationed in Gilgit, and found them all fine fellows, typical of the British service in India and the Colonies.

Politically, Gilgit is under the jurisdiction of Kashmir State, with the Political Agent representing the Government of India and exercising supervisory powers over the Kashmir representative or *wazir*. A small force of Kashmir troops, commanded by British officers, comprises the garrison, which is under the authority of the Political Agent. Within the Gilgit Agency are also the states of Hunza and Nagar to the north and the small territory of Chilas to westward. Chitral, a rather turbulent district near the Afghan border where conditions approximate those in the Afridi territory along the North-west Frontier Province of India, though technically within the Agency, is not now administered by the Political Agent at Gilgit.

A telegraph line extends from Kashmir to Gilgit, with an extension beyond to Misgar in Hunza.

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Messages to the British Consul General in Kashgar are telegraphed to Misgar and taken on by messengers, a journey of twelve days. Telephones are used for short communications between local points on the line, but we were told that it was difficult to keep them in order, for the natives always pounded the instruments to emphasize their remarks.

Many races dwell within the boundaries of the Gilgit Agency, but the Dards, the people inhabiting the valleys adjacent to Gilgit, were the only ones with whom we came in contact. Though their origin appears in doubt, it would seem that they are of Aryan stock, for their features are straight and regular and their coloring is usually light. They are Mohammedans, mostly of the Shia sect.

Some twelve thousand people live in the valleys of Gilgit and win a scanty living through the cultivation of the stony soil. At no time are the meager crops more than barely sufficient to carry the population through the winter, so when a crop-failure occurs, famine stares the people in the face. Nor is it possible to bring supplies in any quantity from Kashmir, for the short open season on the passes and the lack of forage along the route for transport animals are unsurmountable barriers to large scale provisioning. I was told by a former Political Agent in Gilgit that he had seen people actually eating grass from the fields during a period of famine.

Much the same conditions prevail in the territories of Hunza and Nagar, and the fact that every able-bodied man is needed in the fields during the short growing season is the chief reason why the Government of India is forced strictly to limit the issue of

permits to travel through these territories. Though coolies are paid for their labor, there is practically no way for them to spend the money, for there is no surplus which can be bought and sold.

After a pleasant restful day at Gilgit, we started our caravan ahead while we ourselves stopped at the Military Rifle Range to target our rifles. Beyond the Gilgit oasis the road rounded the base of a spur and turned northward up the valley of the Hunza River. The country was exceedingly barren. We passed one point where yellowish débris had come down from a mountain and there were signs of underground chemical action. There were many small craters and blisters on the surface, some of which looked like undersized mud volcanoes. We could not determine the action, though there were indications of the rather extensive presence of sulphur.

One of the most noticeable characteristics of the valleys lay in the great fans of débris at the mouths of intersecting *nullahs*, or valleys. While many of these are doubtless formed by the slow accumulation of ages, we were told by Major Loch that some at least are caused by the complete blocking of the valley through landslides, behind which accumulating water causes the pressure finally to become great enough to break the dam, and the whole mass comes out in a flow of mud and rock which spreads over the fan. Major Loch said that sometimes a village built on one of these fans is completely overwhelmed, though the people usually have time to escape, as there is always a loud report and a rumbling sound before the rush of water and debris.

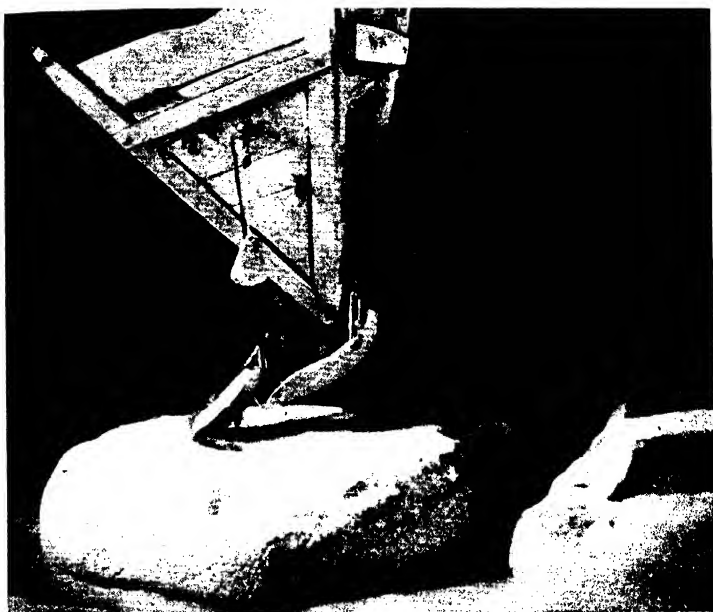
As we continued northward the mountains were more and more rocky and precipitous. In places the valley walls came close together and formed a deep narrow canyon, while the trail climbed in zig-zags over projecting spurs. Sometimes the trail had been blasted from sheer rock cliffs. In other places it was built up on pegs and pole props let into the cliff face. Through portions of the canyon we were able to follow the winter trail, which crossed sand flats in the river bottom. The summer trail, which must be used when the water is high, could be seen winding high above on the cliffs and we were told that in summer this portion of the journey is exceedingly difficult.

Though a trail of sorts had existed for many years, the Gilgit Road was constructed in 1891 by British engineers, when an expedition of Kashmiri and Indian troops fought their way across the mountains and, during a winter campaign of great severity, subdued the territories of Hunza and Nagar. Prior to that time, these two Independent States, locked in their mountain fastnesses and frequently at war with each other, had defied all peaceful missions sent them. The then Mir of Hunza, whose territory controlled the passes into the Pamirs, made systematic raids on caravans travelling between Turkestan and Ladakh over the Karakoram trade route. A regular business in slaves was done in Hunza, and unoffending natives of Turkestan and British-protected persons from Ladakh were constantly sold by their captors. The situation finally became so intolerable that a punitive expedition was sent against them. Severe fighting occurred, but eventually

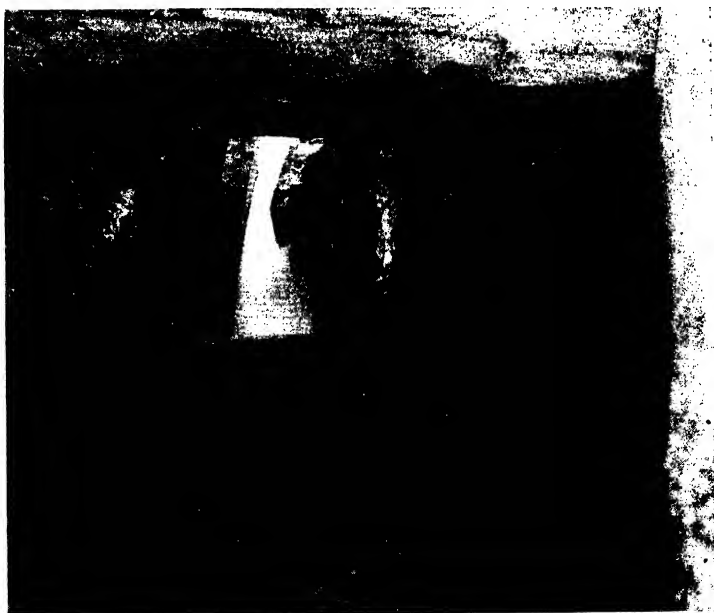
both States capitulated. The Mir of Nagar, who had taken little part in the fighting against the expedition, was allowed to retain his throne but the Mir of Hunza was deported and his half brother, the present Mir Mohammed Nazim Khan, was installed as ruler. The Kanjuti people of Hunza and Nagar are a fine Aryan type. Many of them are tall and erect, with regular features and a direct gaze which is most pleasing. Living among the mountains as they do, they are expert climbers and are entirely at home among the broken, rocky crags which compose most of their country. Kanjuti coolies will carry sixty-pound loads over places where it would seem impossible for goats to travel. We found the people of Hunza exceedingly likable.

One morning as we were winding through a deep canyon where the trail at times was high on the cliffs and again followed the river bed, a splendid snow peak, vaguely reminiscent of the Matterhorn, towered into the clouds beyond nearby mountains. It was Rakaposhi. Our altitude at that point was about 7,000 feet and Rakaposhi, 25,500 feet, rose a clear 18,000 feet above us. The lower slopes of the mountains supported scattered growths of juniper, though the upper portions were entirely sheathed in ice and snow, with tremendous glaciers extending down almost to our level.

The country for much of the distance was uninhabited, and only occasional small villages of stone huts on fans of debris at the mouths of valleys and the trail which we followed, gave evidences of the presence of human beings. We saw a few birds; eagles, hawks, some little brown fellows which we



THE MILL STONE AND THE HOPPER FOR THE GRAIN.



A MILL WHEEL VAGUELY SUGGESTIVE OF A MODERN TURBINE.



CROSSING THE MINTAKA PASS.

could not identify, a few *chikor* or hill partridge, and in the infrequent oases a few magpies, were the only signs of feathered inhabitants. We saw no animals at all.

Near the village of Chalt we were met by a representative of the local rajah and by him escorted to the town. Near the village we passed a few native travellers, one of them a woman clothed in a long *burkha*, the all enveloping garment used by Mohammedan women in India. A couple of members of the Hunza Scouts, of whom there are two companies in the district, passed us on the trail. The Scouts wear a badge with an ibex head in silver on their caps and are equipped and drilled by the Kashmir Government for one month out of each year. They are commanded by their own officers and receive pay while on duty. The Hunza Scouts are a husky lot of men, for they are picked for their speed and stamina in the hills. We heard that during the war, two German agents were found making their way down through Hunza and were brought before the Mir as suspicious persons. When questioned, they said that they had missed their road and asked to be conducted back beyond the passes. The Mir, however, had the two escorted down to India, where it was found that an important capture had been made. The Hunza Scouts form a useful addition to the frontier guards of the Indian Empire.

At Chalt, and again the following day at Minapin, we were in the territory of the Mir of Nagar, and the Rajah of Chalt called upon us at the resthouse to offer aid in obtaining fresh transport. At Chalt

we again repacked loads into units of sixty pounds, as beyond that point coolies would be necessary. While much of the trail is practicable for ponies, the lack of grazing prohibits their being raised to any extent and transport through the Hunza gorges is almost entirely by coolies.

During the march of seventeen miles from Chalt to Minapin, we were forced to change coolies three times, for it was the plowing and planting season and by making frequent changes, each man lost but half a day in the fields. At one point there was a great row as to who would carry loads. All the available men in the village had been collected by the headman but each tried to talk his neighbor into the work. One elderly fellow was picked on by all to carry the last box. He fought, pleaded, shed tears and sat down on the ground when they tried to drag him forward, but at last he had to give in and take up the load. We had a representative of the rajah with us, for without one it would be impossible to get transport at all. Although the men are paid for their work, the money means little to them and the time in the fields means much. The rate fixed by the government was one half anna, or about one cent, per mile.

Just below Minapin the Hunza valley widened and there a deposit of mud from the mountains and the flow of water from the glaciers and ice fields of Rakaposhi made the villages more prosperous than any we had so far seen. For nearly ten miles along that stretch, we passed through almost continuous cultivation, though it was almost all on the side from which the streams came down from the great

mountain above. In one place the trail crossed a cliff composed of mud and boulders, probably the deposit from some pre-historic glacier. The trail was cut some five feet into the face of the cliff for the whole distance. The overhang was most threatening, particularly as it was of loose stones held in rather soft clay. Fortunately it was dry weather when we passed but we heard that this portion could be very dangerous in wet weather.

As we came into Minapin we noticed that many of the trees were broken, some even uprooted; it looked as though a high wind or a snow-slide had visited the place. They were all broken off on the side away from Rakaposhi, which towered above the village. We were told that a few months before, a large piece of the snow-cornice and cliff had broken from the top of Rakaposhi and had fallen several thousand feet into a valley at its base. Although some distance from Minapin and behind an intervening ridge, the concussion had caused a sudden violent rush of air downward and this had almost demolished the village. The people had heard the shock and were prepared, so not many were killed, but great damage was caused among their flocks of sheep and goats.

As in many districts of the Himalaya, polo is the national game of Hunza and Nagar. The game is played on little rocky fields, one of which is seen at almost every village. There seems to be no limit to the number of players on each side. I have seen games of polo in the Himalaya where at least ten men, mounted on little native ponies, composed each team. When some eighteen or twenty players

dashed madly for the ball, there were often most interesting *mêlées*. Even the children play on foot, with little homemade mallets and balls which are cut from the roots of trees, and it is amazing how accurate the youngsters are with their crude properties.

The dress of the Kanjuti is similar to that of the inhabitants of Gilgit. They wear the same loose trousers, shirts and long *chogas*, or coats, though the *chogas* are longer, if anything, with sleeves nearly as long as the coats themselves. The *chogas* are light gray and many of them are decorated with colored embroidery. A tight-fitting woollen cap rolled up around the bottom is the invariable head-gear of the Kanjuti. Though the poorer people go barefooted or wear wrappings of skin on their feet, we saw several men wearing leather boots which reached to just below the knee. The leather was very soft and a soft sole was sewn to the bottom. The women's clothing was dark and the usual head covering a shawl. The Kanjutis are Mohammedans, though the men of Hunza are Maulais of the Ismaili sect, while the Nagaris are strict Sunnis, the other great branch of the Mohammedan religion. Each little village has a mosque, usually but a single room open to the east and with a blank wall on the west, or Mecca, side. Village houses are of boulders and mud bricks, with flat mud roofs over a matting of twigs and branches. Human beings, sheep, goats, and the few small cattle used for plowing, are all housed under the same roof.

Near many of the houses are cisterns for storing water, which is dipped out with flat scoops hollowed

from blocks of wood. A little channel leading from an irrigating ditch to the cistern fills it when water is plentiful. As in other districts, irrigation canals are carried for long distances. We passed one which came from a valley about a thousand feet up the mountain side and was outlined for fully two miles with bunches of green grass.

Beyond Minapin we crossed the Hunza River from Nagar territory into that of the Mir of Hunza. The trail zigzagged up the mountain side and for the next several miles crossed an almost continuous rock-slide high above the river, which ran in a deep gorge between almost perpendicular cliffs. Crossing a summit, the view of the Hunza Valley burst upon us. Sharp, jagged peaks towered to great heights, their sides and gullies covered with snow, while nearer brown rocky mountains rose above terraced fields. There was an almost continuous village to Baltit, some ten miles away. The fruit trees were nearly all in flower and the blooms of apples, pears and apricots were very lovely. Tall, slender poplars were outlined in the fresh green tints of their early foliage. A few of the fruit trees had finished blooming and the blown blossoms, reddish against the green of the leaves, added a still further beauty to the scene.

As we approached the more thickly settled areas, stone walls along the trail made their appearance, so that for several miles our way lay through lanes. Many people, all dressed in the light gray wool chogas and loose trousers, met and saluted us. There were a few women on house tops and in doorways, and these seemed much less shy and were

much more prepossessing than the women of Astor and Gilgit or the lower valleys of Hunza and Nagar. A peculiarity of the women's costumes was a flat round cap, sometimes of white with embroidered decorations, less often of darker colored material.

The men whom we met along the way were straight, upstanding fellows with big chests and the upright carriage of mountaineers. Many were quite light-skinned, some in fact, were real blondes. One chap had dark red hair and was much freckled, as were several of the children we met. The men looked one in the eye and salaamed in a polite but not cringing manner which was refreshing to meet.

The Mir had sent word that he would like to have us come to Baltit, his capital, so after a change of coolies at the village of Aliabad, we pushed on the remaining few miles. We found a small tent pitched for our use, with another for our men. These were on a level spot near the summer residence of the Mir, who at that season does not use his large fort-residence, situated on the heights above the village. Across the valley, which was fully five miles from mountain to mountain, we could see the cultivated stretches of the neighboring principality of Nagar and the town itself was visible far up a wide, intersecting valley. Through the Hunza Valley the river has cut a canyon fully three hundred feet deep and two or three hundred yards wide. During periods of high water in summer, the canyon forms an impassable barrier between the two little states.

The Mir sent word for us to come to his residence and received us in a garden where several deck chairs had been placed around a rug for our visit.

We found the Mir, who is an elderly man with heavy black beard and long moustache, most affable. He had considerable information of the outside world and showed a rather striking knowledge of America. During the conversation he remarked that wine must be rather difficult to obtain in the United States. We agreed with him. The Mir said that his family had come from Persia some six hundred years before and asked us from where our own families had originally come. He showed us several hawks which he used for falconing among the hills, and said that he had excellent sport with them, for he was no longer able to climb for ibex as he had done when a youth. Before we left he invited us to dine with him that evening.

It was cool when we went up to dinner at the Mir's invitation, so the meal was served in a small house in the garden. The table was set with a white tablecloth and napkins folded in fancy designs, such as one might see in a country hotel, a fair grade of chinaware and English cutlery. We were asked if we would take whisky and soda and a bottle of very fair Scotch was produced. The dinner was excellent and afterwards a bottle of port was passed. It was interesting to note that the Mir knew the custom of always passing the port to the left. We were surprised that he used wine until we remembered that Shia Mohammedans are not total abstainers, as are the Sunni branch of the faith.

During dinner there had been music from an orchestra composed of a mandolin-like instrument of thirteen strings, a hand drum and several flutes.

Some of the tunes were very catchy. The Mir asked if we would like to have some boys dance for us and called upon three young lads, ranging from eight to about fourteen years of age. They were dressed in long red cotton blouses, with sashes and waist-coats decorated in blue and yellow and wore little round caps from which dangled long braids of false hair. Bells around their ankles tinkled pleasantly. The first dance was a combination of foot, body and hand work, very graceful and rhythmical. In another, the performers leaped high in the air at every second step. They were the best native dances I had ever seen, and the rhythmical cadence of the music was charming. Altogether, the evening's entertainment was most pleasing.

As we left Baltit, the Mir sent us presents and an orderly accompanied our long file of coolies to arrange for relays further on. All that day we were in the gorges of the Karakoram Range, and until we reached Gulmit, passed almost no cultivation in their stupendous clefts. It was a wonderfully sublime, but rather austere country. We passed one place where the whole side of a mountain had at some time slipped into the gorge, and evidences that it had dammed the river and formed a lake of considerable size, could be seen along the canyon's side. There were quantities of quartz in the mountains, while much of the river sand was dark gray and looked as though it would pan out some "color." As a matter of fact, there is said to be some placer mining for gold, but nowhere has the precious metal been found in any great quantity.

While we stopped for lunch along the way, one

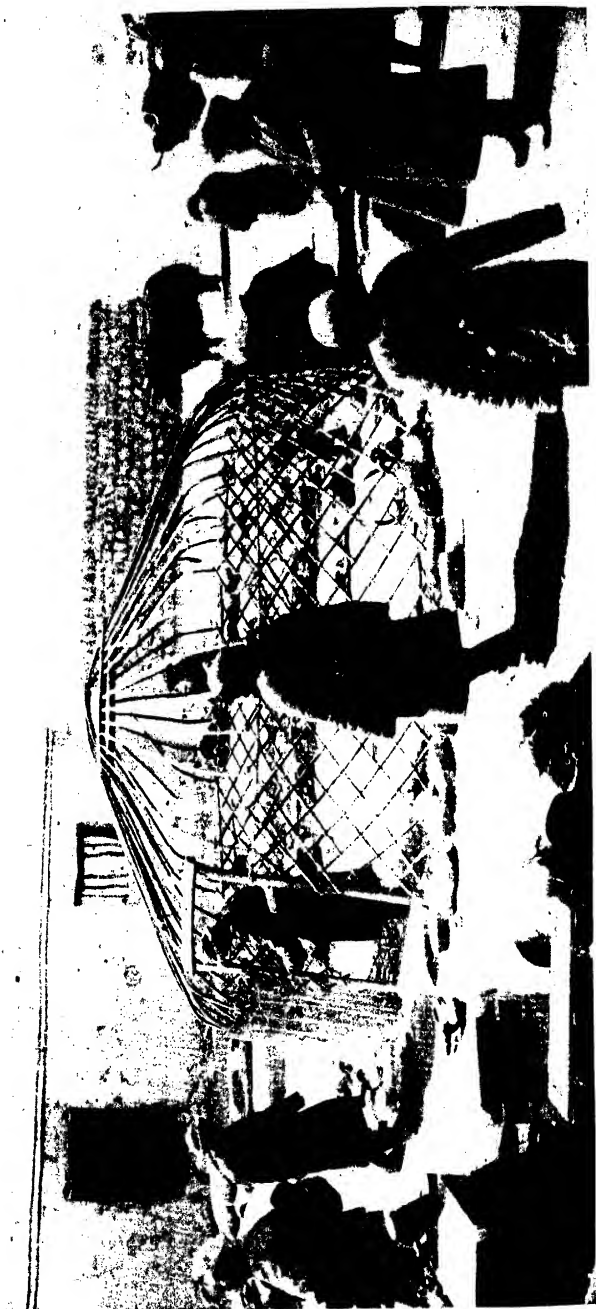
of our men made a small earthen water pipe. Two small holes in the ground were connected by an inclined tube; one of the hollows, the smaller of the two, was filled with tobacco; the other with water above the entrance of the tube. A stone, which did not quite cover the larger hollow, was placed above it, and earth tamped over the whole; then a small opening to act as mouthpiece was made through the earth above the stone. When the tobacco was ignited, a man was able to draw smoke from the small bowl through the inclined tube to the large bowl, where it bubbled up through the water and out by way of the passage in the earth covering the water chamber.

Beyond Gulmit, where we again changed transport, the trail passed the terminal moraine of the Sasaini Glacier and continued up the valley to the large Batura Glacier, whose boulder covered and crevassed snout was still to be crossed. Late in the day there is danger of falling stones along this portion of the march, so an early start is necessary. In crossing the glacier one is on actual ice but little, for it is so covered with boulders and débris that comparatively little ice shows at the snout. A beautiful serrated ice fall higher up, with *seracs* and broken pinnacles showing against the dark brown mountains, made us realize that we were really on a glacier, though the necessity of stepping from one rolling stone to another and balancing ourselves meanwhile did not leave much time to admire the beauties of nature. Steep lateral ridges, which had to be climbed and descended made the crossing an arduous task.

Some distance beyond the glacier we passed an "ice cascade." It was high up on the mountain side and looked like a huge pan of cake frosting spilled down the rocks. Its explanation seemed to be that during a warm spell a large patch of snow had melted and the water had begun to trickle down, again freezing in graceful forms which seemed to pour in waves over the rocks.

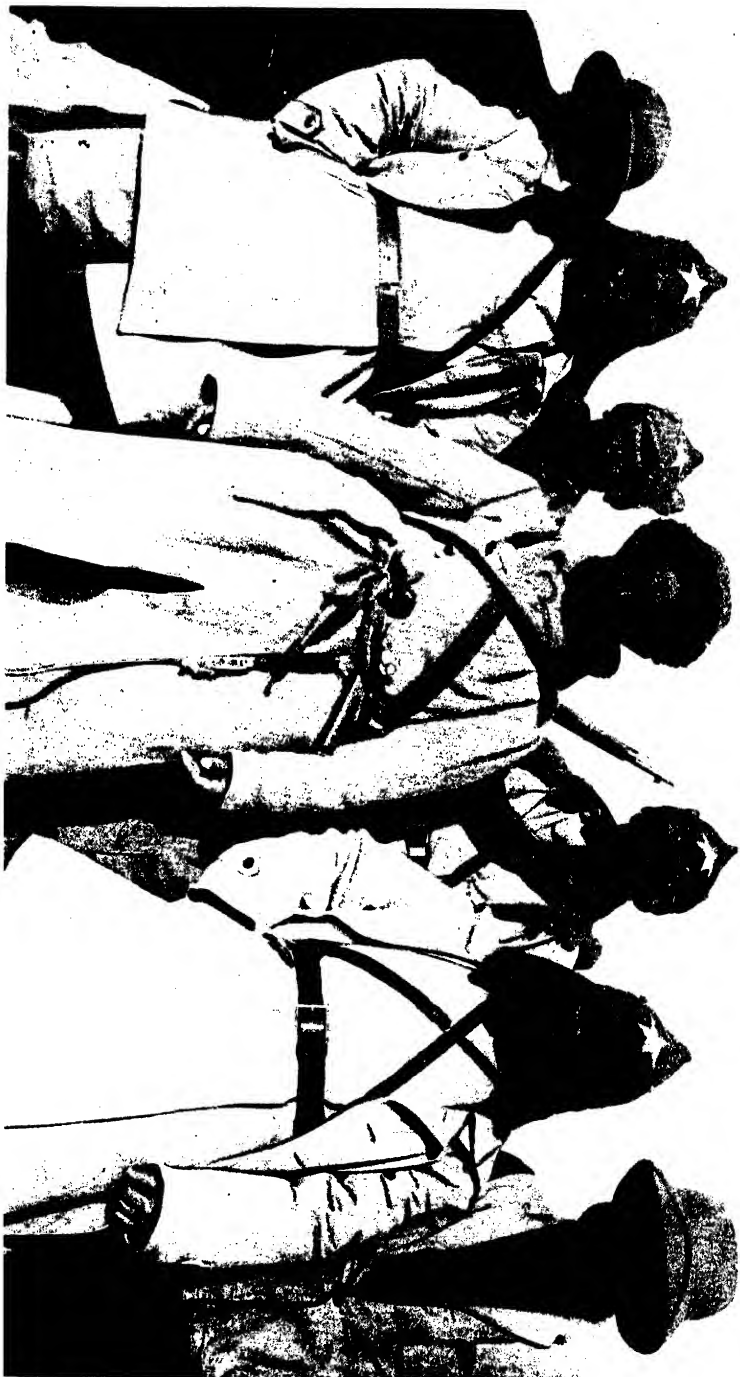
The march from Gulmit to Khaibar, twenty miles, made stiff work for the coolies and when they were paid off, I gave each man a present, or as it is known, *bakshish*. The representative of the Mir who had come with us was given the pay and bakshish, but when he gave the money to the men, they started a small riot and the orderly fled to our protection. The coolies said they thought the bakshish not enough, though we had been told the proper amount and had given it to him. It was only when we threatened to take the present back that they finally dispersed. It was noticeable that the type of people above Gulmit was not as high as in the vicinity of the capital.

In the villages we had seen mills for grinding grain and at one place had an opportunity to examine one. It was a little boulder-and-earth hut about ten feet below an irrigation channel, from which a hollowed log led sharply downward and threw the water against a side-shot wheel. This rotated a vertical wooden shaft, to the upper end of which was fastened a round mill-stone. This revolved over a similar stationary stone, and a hole in the upper allowed the grain to fall between the stones from a hopper suspended above. A bit of horn, which



ERECTING A YURT.

These widely used felt-covered tents are to be found everywhere in Central Asia. The frames are collapsible and fold readily for transport.



SOVIET SOLDIERS OF KIZIL KARBAT POST IN THE RUSSIAN PAMIRS

bumped over the top of the revolving stone, oscillated the hopper sufficiently to cause the grain to trickle slowly from it. The flour was thrown off at the periphery of the stones. Although a small amount of stone dust is mixed with the flour and causes anyone with a civilized stomach a certain amount of discomfort, the native-ground flour is said to be quite good.

The route continued through a series of deep gorges, where tremendous rock slides extended to pinnacles far above. Wherever the main valley widened there was often a small bit of cultivation and a tiny village. At Misgar, the end of the telegraph wire, we found two Kashmiri operators, who agreed to handle any messages which we might send back by the weekly messenger from Kashgar. Coolies were again changed and we added two ponies and a couple of yaks to the caravan, as sufficient men were not available at the little village.

A few miles beyond Misgar the trail, no longer wide and well made but very rough in places, descended to the river bed and continued among rocks and boulders. A stream about fifteen feet wide flowed along a sandy bed, but as we ascended it suddenly disappeared and the bed was quite dry. After some five miles, the stream again contained running water, showing that somewhere it sank into the sand to reappear lower down as a spring. For several miles the river was bordered with willows and birches, and in one place a dense thicket of bushes extended for some distance. Near the junction of the Killik and Mintaka valleys we made a camp among the bushes, and as our altitude was

about twelve thousand feet at that point, a cheerful fire of willow boughs was most welcome.

The Killik valley, leading to Killik Pass, branched off to the west from our camp at Murkushi, while our way to the Mintaka ascended sharply ahead to the north. In summer the Killik Pass is frequently used for crossing into the Pamir region, for the labor entailed is not as great as on the Mintaka. Owing to the exposed position of the Killik, however, snow lies there late in the season and early travellers must take the rougher Mintaka.

From our camp in the thicket at Murkushi we saw a herd of ibex on the slides across the valley. They were rather low down and though we and our transport had come along the trail in plain view of them, they did not appear nervous, but were quietly grazing their way upward. In their still unshed, winter pelage they looked large and almost woolly at a distance.

A sharp, rough march up the Mintaka valley brought us to the foot of the Gulkoja Glacier, which filled the entire valley at its snout. Our camp was entirely on rocks and as there was no possibility of driving tent pegs, boulders were used for anchoring our little "Whymper" tents. It was cold just below the glacier, but there was no wood at Gulkoja and the few sticks brought along by the coolies were only enough for cooking, so very early we rolled up in our sleeping robes for warmth.

After a clear night when everything froze solid, we started just at dawn up the rocky terminal moraine. It was bitterly cold, with just enough wind to stir the icy air. The climbing, however, soon

warmed us up, though our hands remained nearly numb in spite of fleece-lined gloves. The sun struck us about half way and then the glare became blinding and snow glasses were needed. We had issued glasses to the coolies but there were not enough to go round, as several pairs had been broken by coolies on the Burzil. The men who did not have snow glasses, used blinders made of strands of horse-hair tied over their eyes and around their heads. Between the strands, they seemed able to see without becoming blinded by the glare from the snow.

The trail turned off the moraine and zigzagged sharply upward over rocks to a notch among the peaks, the Mintaka Pass. There was much fresh snow, though fortunately it was fairly well frozen during the upward march. It was a difficult climb, and even the pack animals, it seemed to me, heaved sighs of relief when the top was reached.

CHAPTER III

AMONG THE HERDS OF *OVIS POLI*

AT the summit of the Mintaka, a narrow snow-covered saddle where our aneroids gave a reading of 15,000 feet, we dropped down in the snow to allow our breathing to become more normal. The few minutes spent in resting gave us an opportunity to look southward into the precipitous country of Hunza through which we had come. Almost at our feet lay the white surface of the Gulkoja Glacier, which extended far to the left among the peaks, and to the right ended in the rocky terminal moraine, below which our last camp had been located. Beyond towered the tremendous snowcapped granite heights of the Karakoram, with valleys between even deeper than we had realized. We were again impressed by the ruggedness of Hunza and the majestic austerity of the mountains comprising most of that precipitous country.

Beyond the pass stretched Chinese territory, where our route descended a gradually widening valley by easy grades to the Tagdumbash Pamir. The country to the northward, as seen from the vantage point of the Mintaka Pass, differed noticeably from that behind us: the ridges were less rocky, the valleys wider and not so steep-sided as those we had been

travelling. Many of the higher summits were white with snow, though the nearer valleys gave less wintry promise.

Three of the great mountain systems of Asia come together in the Pamirs, called by Marco Polo "the roof of the world." The word "Pamir" comes from the Persian "pai-mir," which is translated as "foot of mountain peaks." One may describe the Pamirs as wide upland glacial valleys, the floors of which average from twelve thousand to fifteen thousand feet above sea level. The valleys are separated by ridges as high as nineteen or twenty thousand feet, but since the elevation of the valleys themselves is so great, they do not give such an impression of height as do the more precipitous Himalaya and Karakoram. There are no trees, for much of the Pamirs lies above timber line, which is between twelve and thirteen thousand feet in that latitude. Another reason for the total lack of forestation is the extreme aridity of the country; very little rainfall occurs during summer, and winter snowfall is not nearly so great as in lesser altitudes in the Himalaya. We found a growth of coarse grass in a few of the valleys and patches of a wiry grass were scattered among the rocks on the hill-sides. The latter apparently forms one of the chief foods of *Ovis poli*.

The Tagdumbash is the only one of the eight Pamirs which is in Chinese Turkestan. Another, the Wakhan Pamir, is in Afghanistan; the remaining six have been part of Russian Turkestan since 1892. The ridges separating the greater valleys are cut by smaller, narrower valleys and the sides of these are often very rocky and broken. In the main,

however, one has an impression of vast distances and open spaces, particularly when viewing the Pamir region from a high point.

After our rest at the summit of the Mintaka, we continued down through deep snow toward a tiny shelter hut perched on a rock about two miles below. The coolies found travelling through the deep drifts on the northward slopes almost as hard work as the climb to the summit and everyone was more than willing to rest again at the shelter hut. During the stop, we saw a lone man making his way slowly toward us from below, toiling determinedly upward through the snow as though a long journey lay before him. He turned out to be Nadir Beg, a Sarikoli employee of the Government of India at the town of Tashkurgan in the Tagdumbash Pamir. Major Loch had dispatched a message from Gilgit to the British Consul at Kashgar, asking that Nadir Beg be sent to meet us at Misgar, bringing with him, if possible, a caravan of thirty ponies so that our Kanjuti coolies might return to their homes in Hunza. Nadir brought a message from the Consul General that our ponies had been started and would meet us in the Tagdumbash Pamir.

Nadir Beg was the first Sarikoli whom we had met, and we were at once struck with his evident intelligence. His bearded face was distinctly Aryan, with keen brown eyes and regular features. His smile was delightful and its frequency showed a fine sense of humour. He impressed us as being a very capable person and his quilted cotton coat, belted with a sash, his roll of bedding slung over his back, and a pair of snow-goggles made him a rather picturesque figure.

Nadir is employed to assist British travellers using the main route from India to Kashgar via the Tagdumbash Pamir. We came to regard him very highly and found him excellent company during the weeks he was with us.

The Sarikolis are of pure Aryan descent and are related to the Tajiks of Ferghana, from where, many generations ago, they are said to have come. The fact that Sarikoli, their language, is a dialect of Persian, would seem to strengthen that explanation of their origin. They are Mohammedans of the Ismaili or Shia sect, who acknowledge the Aga Khan as the head of their church. There are some ten thousand Sarikolis living in the Tagdumbash Pamir and the district is generally known as Sarikol. Tashkurgan, the largest town, is the seat of Chinese administration and there are smaller towns located in the valley to the north and south. Wheat and barley are grown to some extent but the Sarikolis own many sheep, goats, and yaks, which form their chief source of wealth. Normally they live in small villages and are not nomadic, although they pasture their flocks and herds where the best grass is to be found and even cross into Russian territory sometimes for better grazing. We spent little time in Sarikol, so were unable to study the people, though Nadir Beg gave us considerable information regarding them.

Continuing, we gradually reached more level grades, and about eight miles from the top of the pass arrived at a small camp of Sarikolis. The encampment was known as Lupgoz though, like almost all places in the Pamirs, the name simply denoted

an area which one might or might not find inhabited on arrival. While awaiting our coolies we were entertained by the head of the camp in one of the *yurts*.

A *yurt* is a most ingenious and comfortable dwelling, admirably adapted to severe weather. It is used by the nomad peoples of the Pamirs, in the Thian Shan Mountains, and on the vast plains of Mongolia, and its construction is particularly fitted to withstand the frequent violent gales. Circular in shape and varying from twelve to over twenty feet in diameter, *yurts* are made of large pieces of heavy felt, or *numdahs*, over frameworks of light wooden poles. The sides, usually about four feet high, are series of pantographs and are collapsible for transportation purposes. To the top of the sides of each *yurt* are fastened curved poles, the upper ends of which fit into a heavy wooden ring about four feet in diameter which forms the center of the roof. The door-frame is curtained with felt. The shape of the structure is such that wind pressure serves to anchor it more firmly to the ground, though as an added insurance against disaster, a heavy stone is sometimes placed in the *yurt* and the roof tied to it by a rope from the center ring.

A fire of *teyzak*, or dried cakes of yak-dung, is made in the center of the floor; the usual method of building a *teyzak* fire is to pile the fuel in a circle and fill the center with dry *tushkin* or *burtsa*, a variety of stunted sage found in many portions of the Pamirs. When the *tushkin* is ignited it kindles the *teyzak*, which burns with a bluish flame and makes excellent fuel. Smoke passes out through the open center of the domed roof, which may be closed wholly

or partly in bad weather by pulling another piece of felt over it.

Our host entertained us with bowls of warm yak's milk, heavy with cream and very pleasant. When we found that it was customary to boil the yak's milk to make the cream rise we felt rather safer about drinking it. We were also served small hard raisins, dried apricots, and some small nuts which we did not identify at once but which we were told were the kernels of apricot stones. They were very pleasant and tasted much like almonds.

The inside of the yurt, which was fully twenty-four feet in diameter, was interesting. Opposite the door, for almost half of the circumference, were piles of neatly-folded felt *numdahs*, quilts, and carpets, with here and there a rather gorgeously decorated box, which probably contained the family treasures. A portion of the interior was curtained off and served as storage place for food, while near the door, another curtained space sheltered a couple of young lambs. In the center of the floor, directly under the smoke opening, was a three-sided mud stove in which a fire of *teyzak* was burning. A mutton stew was boiling in an iron vessel on the top of the stove, attended at intervals by the women of the family. About the floor rolled a chubby and very dirty-faced baby.

By and by the coolies arrived and we continued about two miles farther down the valley to a level basin where a *yurt* was being prepared for our reception. On the way we noticed numbers of feeding yaks. Though we had used one or two of these animals during the crossing of the Mintaka, the stiff

climbing had given us little opportunity to examine them closely. The yak (*Poëphagus grunniens*), while not a native of the Pamirs, is raised in large numbers throughout the country. Wild yaks are found in Tibet and Ladakh, far east of the Pamirs, but for many years the domesticated variety has been one of the most valuable possessions of the people of this latter district. Native to high elevations and accustomed to cold climates, the yak is ideally adapted to life in the Pamirs and is extensively used for transportation. From their long shaggy coats the hair for felt and the making of garments is obtained; the yak also furnishes the *teyzak* so widely used as fuel in that woodless land. Yak's milk, the only variety obtainable, is excellent.

Riding-yaks make travel possible through deep snow and on steep hillsides where ponies are quite useless. They are amazingly sure-footed and only once did I have one fall with me. During our stay in the Pamirs we came to look on the powers of these uncouth beasts with the greatest respect. The gait of the yak is not unpleasant, and when the animal is fresh it will travel at a good three miles an hour. Its rapid gait is a combination of trot and amble: trot with the front legs and amble with the hind legs. When tired, however, the yak balks like a mule. Once he decides that he has gone far enough no amount of beating will have the slightest effect upon him; apparently the blows fall unnoticed. The sensation of riding a yak is peculiar, for its head is held low to the ground, and as the saddle is placed just back of a hump on the shoulders, at times it appears as though the animal has no head. When

the yak raises his head, the long horns look like the handlebars of a bicycle. A rope through the nose takes the place of bridle, but if the animal decides to go in a direction contrary to the wishes of his rider, sometimes interesting situations develop. We frequently saw natives attempt to drag stubborn yaks along by pulling on the nose-rope and the results were rather startling. There can be little feeling in a yak's nose, for he will pull back against the drag of the nose-rope until his nostrils are stretched out like rubber. An irritating habit of the yak is the almost constant grinding of his teeth, which is nerve-racking when continued for hours during a long ride. It was noticeable that our yaks preferred to eat snow rather than to drink from the infrequent streams.

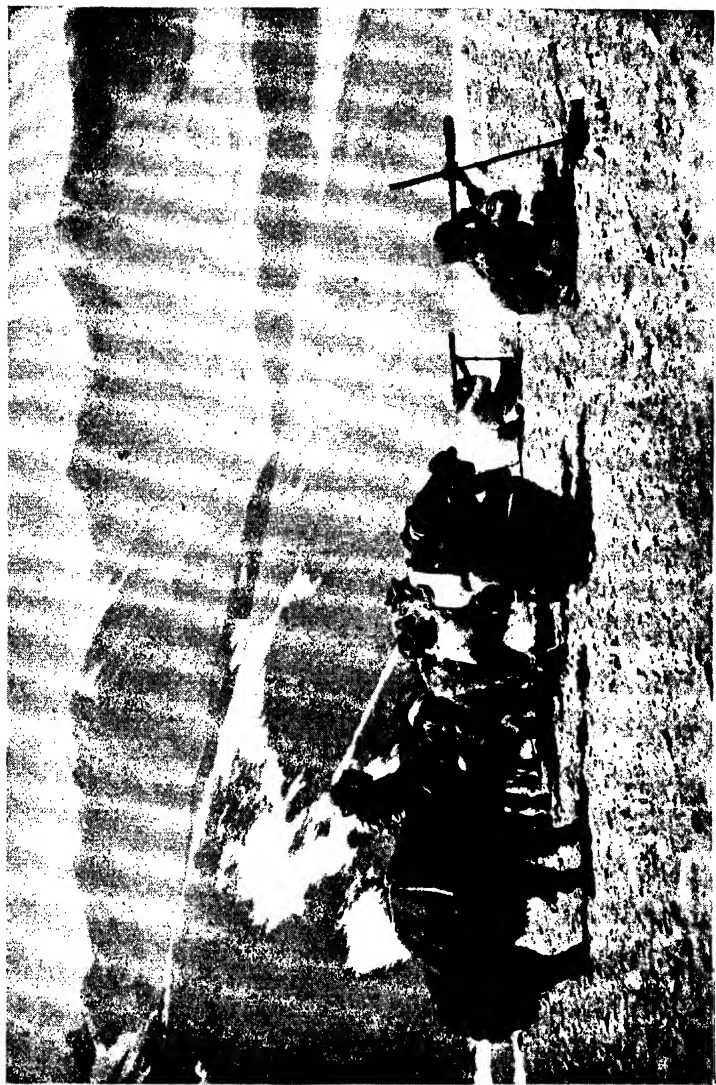
Near our first camp in the Tagdumbash Pamir we met several Kirghiz, a race widely scattered over Central Asia. The Kirghiz are from the same parent stock as the Turks of eastern Europe and are said to have originated in the Yenisei basin of the Altai. Originally, there appears to have been no distinction between them and Mongols, though now the Kirghiz show but a slight Mongoloid strain. The Kirghiz are entirely pastoral and are nomads who move about with their flocks and herds as the grazing changes. Like the Sarikolis, they are Mohammedans, though they belong to the Sunni sect. Other tribes of Kirghiz are found in eastern Russian Turkestan, in districts of the Thian Shan, in Dzungaria, and in southern Siberia. Those living in the Pamirs are known as the Kara-Kirghiz, or Black-Kirghiz, though the name seems a mis-nomer, as they are usually fair

and their skin, where not exposed to the sun, is quite white. The Mongol strain shows in elongated eyes and high cheek bones.

Peyik, a former Chinese post, is at the junction of the Kara-Chukor *jilga*—as valleys are known in Turki—and the Tagdumbash Pamir. During the war a small Chinese garrison was stationed at Peyik but now the mud and boulder enclosures are unused. As we approached, large flocks of sheep and goats grazed on a neighboring hillside, and several *yurts* were seen near the crumbling walls of the old fort. An elderly Kirghiz, described as a "retired *Beg*," presented us with a sheep and as a present, of course, was expected in return, we gave the old fellow a clasp-knife, with which he seemed quite pleased.

A *Beg* is ordinarily a minor official of the Government in Chinese Turkestan and is usually an influential man, often an extensive land-owner in the settled districts. Sometimes, however, the title of *Beg* is bestowed on unofficial personages, somewhat in the manner Kentucky "Colonels" are created in the United States. We never did learn just what position in society a "retired *Beg*" was supposed to hold.

On our way to Peyik we had questioned Nadir regarding the Russian Pamirs which he said he had visited some years before. His answers were not at all reassuring. He told some amazing tales of how the Russians treated foreigners who entered their domain and went into much detail in his predictions concerning what would happen should we attempt to go. According to Nadir, the least that might befall us would be our arrest, robbery and



EXAMINING A HERD OF OVIS POLI WITH TELESCOPES, RUSSIAN PAMIRS.



A SNOWY STRETCH IN THE RUSSIAN PAMIRS. ALTITUDE 15000 FEET.

expulsion from the country without food or means of transportation. Hassan Bat, our Kashmiri *shikari*, was thoroughly disconsolate over the prospect of entering Russian territory and strongly advised that we remain in the Chinese Pamir and hunt across the border. Although we did not entirely believe the stories, it seemed best to send a messenger ahead, a reliable Sarikoli who could visit some of his own people pasturing their flocks in Russian territory and possibly learn from them the attitude of the Russians. We therefore instructed a man and sent him as a scout, while we continued up Peyik Jilga to a campsite just below the border.

For four or five days, while waiting for the messenger to return, we overhauled our kit, assigned loads to the Kashgar ponies which had met us at Peyik, and looked about for signs of *Ovis poli*. A few old horns were all we saw and it was evident that the sheep were not plentiful on the Chinese side. If successful in entering Russian territory, we hoped to remain about a month so we repacked our surplus supplies and sent nine pony loads of them direct to Kashgar to await our arrival at the British Consulate. While going over our stores, a number of sealed tins of motion picture film were found to be badly swollen. The same thing was noticed in some food tins and Clark offered the explanation that, as all of them had been sealed at approximately sea level, the lower air pressure at our thirteen thousand foot elevation had caused the pressure inside to swell the cans. This was doubtless correct, as no deterioration in film or supplies was noticed.

Two or three miles beyond our *yurts*, the notch

of Peyik Pass was a continual object of interest, for it was from there that our messenger would return. One morning several figures were sighted, zigzagging down the steep snow slopes leading to the Pass. Through telescopes we could see that they were men on yaks and as they came closer, we saw that one of them was our messenger; another was identified as Pelang, a well-known Sarikoli who had been with several hunting parties in the Tagdumbash Pamir. A third was Ol Futt Shah, a Sarikoli employed by the Russians at Kizil Rabat Post as interpreter, and the last was Sherif Beg, a wealthy and influential Sarikoli, well-known to Nadir Beg.

On the arrival of the party a small *durbar*, or council, was held, all sitting about while, through interpreters, Clark and I asked for news from the Russian side of the Pass. At first it appeared that no word regarding our arrival had been forwarded from Moscow, though Ol Futt Shah said that the Russians at Kizil Rabat Post were expecting two white men. It developed that his instructions were to see us, examine our credentials, and if it appeared that we possessed letters of sufficient importance, to suggest our crossing the Pass so that our papers might be examined at the Post. We showed Ol Futt Shah our passports, visas, and Pamir permits; the latter he was able to read to some extent. Although he had no authority to give us a clean bill of health, he apparently considered our backing strong enough to warrant our going ahead. To make assurance doubly sure, however, we sent Nadir Beg in advance with our credentials and followed him the next day.

Part of the ascent to Peyik Pass was steep and through deep snow. The altitude—15,470 feet—was enough to cause considerable distress to the Kashgar ponies which carried the bulk of our equipment. We were able to ride yaks much of the way, so the actual work on our part was not so severe as on some of the passes already crossed. Views from the summit were very striking; tumbled masses of mountains, extending as far as the eye could reach, looked like the waves of a stormy sea. Ahead, in Russian territory, the country was much more open and looked like excellent wild sheep ground.

That it was good sheep country was shown only three miles below the summit, when several tiny specks high on a snowy mountain side proved to be *Ovis poli* rams. Great excitement prevailed as we hurriedly got out glasses and telescopes for our first view of the famous sheep we had come so far to find. There were thirteen in the band, all large rams. One wide-sweeping pair of horns looked especially fine, though the distance was so great it was difficult to judge them accurately. But the fact that within a little more than an hour after entering Russian territory we had seen thirteen of the supposedly rare animals cheered us and increased our hope of finding more of them further inside the border.

A few miles beyond the summit the snow in the valley lessened and areas of dry grass appeared. Far across a wide flat several tiny specks caught our eye. They approached, enveloped in a cloud of dust, and we discerned several men who seemed to ride in military formation. These, then, were the Russian soldiers from Kizil Rabat Post, who, we had been

told by Ol Futt Shah, would meet us on our entry into the country. Even though we had confidence in our credentials, there was still the question as to whether the Russians, who viewed with suspicion any attempt by outsiders to enter their country, would understand our coming into the Pamirs to collect scientific specimens for a museum in far off America. It was with mixed feelings, therefore, that we approached them. The detachment consisted of a Junior Officer, four men and a Sarikoli irregular, the latter acting as servant and scout.

They rode in excellent order, four abreast, the irregular a little to the left rear, the officer in front. Halting the detachment, the officer came forward to meet us. As the leader of our party, I urged my yak forward and the officer and I saluted each other. I tried to look dignified and would have succeeded somewhat better than I did except for the fact that yaks, somehow, do not lend themselves to dignity. The officer asked a question in Russian and as I could not understand it, our men came forward to interpret. The question was translated from Russian into Sarikoli by Ol Futt Shah, from Sarikoli into Hindustani by Nadir Beg, and from Hindustani into English by Hassan Bat. During our stay among the Russians all conversation had to be carried on through these three mediums. The question, as it finally reached me, was whether I were Mr. Morden. I assured the officer that I was, whereupon he produced a letter of welcome. It was written by the Commanding Officer of Kizil Rabat Post and stated that the officers of the post would be glad to entertain us there as soon as we could come. We were much

interested in the way the envelope was sealed. Four small holes had been made through both the envelope and letter, and bits of thread passed through these were secured by a large seal on the back, so that the letter could not be extracted without destroying it or cutting the threads. The officer informed us that *yurts* had been prepared some five miles further down the valley, so we followed our escort to the new camp where we all dismounted and everyone shook hands.

While waiting for dinner we had an opportunity to examine our guests, who were all clean, intelligent-looking chaps. Four were short and stockily built; all were smooth-shaven except the officer, who wore a short blond mustache and sparse chin beard. Their uniforms consisted of black boots with spurs, riding breeches and blouses, sheep-skin *pushtins* (fleece-lined leather coats) long cotton dust coats with hoods, and pointed blue-gray caps with ear and chin flaps and large Soviet stars in front. The detachment was mounted on shaggy little native ponies with wide-skirted military saddles. Three of the party carried rifles slung over their shoulders; another a useful-looking, short barrelled automatic rifle and a full bandolier of ammunition. All wore sabers and the enlisted men had rifle bayonets in rings on their saber scabbards. The officer carried a revolver under his long coat.

We found the members of the escort friendly and interested in us, our plans, arms and equipment; they studied our maps particularly and traced our route. When they examined our maps they asked whether we had seen the "Gimoley" Mountains; it

was some time before we understood that they meant the Himalaya.

The men said their homes were in Tashkent and that all the garrisons of the Pamir posts were from Russian Turkestan. The tour of duty in the Pamirs, they said, was two years, though all declared that it was too long, as the effects of prolonged sojourn at that high elevation had unpleasant physical effects.

After dinner Clark and I put our beds close together to make room for our guests, who slept under *numdahs* and saddle blankets while the orderly kept a small fire of *teyzak* going through the night.

The escort had orders to stay with us until our arrival at Kizil Rabat Post. So we decided to leave everything at the *yurts*, go with them, pay our respects to the Commanding Officer and return to our own camp the second day to begin hunting. Horses were used for the thirty mile ride to the post and back, as the route was entirely in the valley and yaks were unnecessary. It was noticeable that the Russian soldiers were all excellent horsemen and we wondered if possibly they had not been Cossacks before the Revolution.

As we left camp the valley widened, and glorious views to northward embraced a broad plain between bare red hills, with fine snow-covered ranges in the far distance,

Three miles from Kizil Rabat, at an altitude of over twelve thousand feet, a hot sulphur spring bubbles from the gravel of a little island in the river that flows through the wide valley. The spring had been hollowed out and a *yurt* placed over it and though the outdoor air was below freezing and snow

lay deep about the *yurt*, we all indulged in a most welcome hot bath.

Kizil Rabat—which means “Red House” in Turki—is but five miles from the Afghan border, beyond which we could faintly see an outlying range of the Hindu Kush. We learned that there are five posts in the Pamir area, three of them along the Afghan frontier. Kizil Rabat Post consists of a low sod-roofed building made of mud bricks, a mud corral and two or three out-buildings. The valley, which is about four miles wide, raises a fair quantity of grass. We passed several Kirghiz *yurts*, each with its flocks of sheep, goats and yaks, while a few camels could be seen grazing on distant hills.

As we approached the Post, all the escort, except the officer and orderly, dashed ahead, while the rest of us, with various Sarikolis and Kirghiz who had joined the party, came along at a trot. Our approach had been observed and a mixed crowd of soldiers, officers and natives came out on foot to meet us. The Post Commander, a young, intelligent, determined-looking fellow of about thirty, saluted and shook hands. We dismounted and after greetings all round, an orderly took our horses. The Commander invited us inside, so we entered the building, over which the red flag of the Soviets hung from a pole at one end. Passing through a small barrack-room with iron cots and a screened-off alcove for N. C. O's, we came to the officers' quarters, if that is what the room really was called. It was about ten by twelve feet, provided with two small glass-paned windows, ceiled with thin squares of wall-board, and it had for furnishing, a desk, a couple of iron cots, and

a built-in mud stove. On the walls hung maps of the Pamir area, of Europe and of Asia.

We were invited to sit at the desk, while all the officers and men who could enter crowded into the room. The Commander said he was glad to see us, asked how long we would stay, where we wanted to go and where we received our visas and permits. We answered everything as clearly as possible, but having to use three interpretations, English-Hindustani, Hindustani-Sarikoli and Sarikoli-Russian, one could never be certain that either principal received the exact message. The Commander said we were quite free to travel wherever we wished and suggested that a pleasant-faced little Captain should go with us to assist. Though we did not particularly want him, we naturally acquiesced.

A lunch of heavy dark bread, local butter and very fair meat-cakes, preceded by copious drinks of Russian cognac from china bowls and followed by several bowls of weak but quite good cocoa, was served by a young orderly. The Commander insisted that Hassan eat with us, to the great embarrassment of that worthy Mohammedan; he was in a profuse perspiration the whole time. I noticed that a soldier, who entered to report, made quite a snappy salute, which spoke well for the discipline at the Post. On leaving the building we were each presented with an issue *pushtin* by the Commander. They were of sheepskin and very warm, but like all those garments, smelled vilely.

The officers at Kizil Rabat were young, alert-looking lads, though some of the men were rather low-brow types. The Commander gave one the

impression of being exceptionally keen and forceful. His face was very hard, though when he smiled it lighted up and became exceedingly pleasant and boyish. They were all, officers and men, quite as clean as a frontier garrison of the kind would be anywhere.

By request, I wrote a letter addressed to the "Commissariat of the Pamirs," stating our credentials, our purposes, our plans regarding time of stay and the districts we desired to visit. I was particularly asked to state how we were received and treated at Kizil Rabat. The letter was sent by courier to Karok, headquarters of the Pamir district, eleven marches to the westward, and was first written in English, but afterward in very poor German when the Commander learned that I could speak a little of that language.

Before our departure from the Post the soldiers of the previous day's escort presented us with some lump sugar and three tins of condensed milk, saying that, as they had accepted our hospitality, they wished to make us a present in return. We gave them a pint of whiskey—which I rather think was against regulations—and told them they could drink it to the friendship of Russia and America. This present, by the way, was more munificent than its size suggested, for we had brought only a small supply for use when the weather and our exertions necessitated. A "cellar" for social purposes was no part of our scanty stock.

The whole garrison of ten men and four officers turned out and we photographed them marching, playing, smoking and dancing, but it was forbidden

to take pictures of the post itself. We were told that if we wanted to go over into Afghanistan a little way, we could do so, as there were no Afghan posts nearby.

After our return from Kizil Rabat, we were held in camp by snow storms and killed time trying to converse with our guest, the Captain, through the usual interpreters. We learned that in 1925, the Soviet Government spent the equivalent of \$350,000 on the five posts in "Pamira," as the Pamir district is known in Russian. Fifteen hundred camels are required to bring supplies for the various posts, as the nearest rail-head is a two weeks' journey by caravan. Native Kirghiz are not taxed, though Sari-kolis from Chinese Turkestan are charged for grazing privileges at the rate of three per cent a year on the estimated value of their herds, and merchants trading between Kashgar and Andijan must pay a tax of six per cent on the amount of business they do.

The storm ceased one noon and the late afternoon was perfect. The atmospheric clearness, when the sun shone, was amazing. Hills near camp, probably five hundred yards away, looked as though one could throw a stone to them, while distant mountains stood sharply cut against the sky. Fresh snow lay everywhere, whitely softening the sharp contours of rocks and hills.

The ending of the storm gave us our first opportunity to hunt so we arose at three-thirty next morning, by the light of a pale last-quarter moon. It was bitterly cold, for as all our *burtsa* and *teyzak* was wet, the little fire which Nadir Beg made was mostly smoke. We hurried into frozen clothes and

ate a hasty breakfast which cooled as rapidly as it was brought from the cook *yurt*. Before daybreak we were on our yaks, ploughing through deep snow up the valley. There was no wind at first but the still air was icy and the temperature was well below zero. The sun, which reached us about six-thirty, did not moderate the cold for at least an hour.

Shortly after sunrise, a band of thirty poli ewes on a hillside ahead caused a halt and the Eyemo camera was set up and some motion pictures made with a telephoto lens. Several ewes came to within about two hundred yards of our position, stopping now and then to stare at the dark objects below them. We were able to get some excellent motion pictures, the first ever made of live *Ovis poli* in their native range. These, with other motion and still pictures obtained later, made a series which supplemented the specimens and added to their scientific value.

Several rams were sighted on a ridge across the valley about a mile ahead and we at once stopped to examine them from the protection of some jutting rocks, though they were very far away for a detailed view. Soon, however, they got up and came down hill in our direction, passing out of sight behind a ridge. Just as we started forward, they reappeared and moved leisurely upward again, while twelve more rams came down from our side, crossed the valley and joined them.

The whole band went about half way up the snow-covered slope and began to paw through to the grass beneath. The snow was about two feet deep, but they seemed to have little difficulty in travelling or in reaching through it to the ground. They were a

wonderful sight, those twenty big *Ovis poli* rams. Even the smaller heads were larger than sheep heads which one would work hard for elsewhere; I do not suppose there were horns in the lot which measured less than forty inches.

About noon the rams arose one by one, pawed about a short time here and there and then gradually followed a leader along the slope over a ridge. Immediately the last disappeared, we hurriedly collected our belongings and were off after them. It was a long breathless climb through deep snow, but we finally reached the ridge over which they had crossed. While traversing a long slide of broken rock, I noticed a pair of horns outlined against the snow on a ridge some two hundred yards ahead. Glasses showed one of the rams lying among rocks, with another just above him. As we watched them, they suddenly saw us, probably alarmed by movements of the Kirghiz camera-carrier, who tried to crawl upward. They arose at once, of course, looked a moment, then dashed upward. When we arrived at the ridge, the whole herd, which had been lying among the rocks of a shallow depression, had disappeared over the next ridge. There was nothing to do but return to the yaks and make for camp, as a snow storm had started which promised to become thicker as darkness approached. So ended the first day's poli hunting, with some knowledge gained but no specimens collected.

Snow, which precluded any possibility of hunting, continued all night and much of the next day. Captain Nachaev left for Kizil Rabat in the morning, promising to send some dry fuel and a less porous



JAMES L. CLARK RIDING A YAK IN THE RUSSIAN PAMIRS.



A WILDERNESS OF SIDE VALLEYS, RUSSIAN PAMIRS.

yurt. We were quite satisfied to have him go, for, though he was a pleasant lad, linguistic difficulties made it a bit trying to have him just sitting about.

One more day was spent hunting from that camp but the snow was so deep that we could accomplish little. Twenty-two rams were located and examined through telescopes; one, estimated as being fully fifty-five inches, was shot at long range and found to measure but fifty-two inches around the curl of the horns. Experience in judging sheep heads is of little use when hunting poli, we found. I had thought that I was a fairly competent judge of wild sheep horns, as I had previously shot seven species in North America and Asia, but I discovered that the wide sweeping curl of the horns of Marco Polo's sheep is very deceptive. British sportsmen who have hunted in the Pamir region have met with the same difficulty.

The ram collected near our first Pamir camp was found to have an old lead slug from a native gun embedded in the muscles of a hind leg. The slug was very crudely moulded and looked roughly like the heads of two large hob-nails, back-to-back. No apparent lameness had resulted from the wound, which was old and had entirely healed.

We learned that the Kirghiz yearly kill many *gulja*, as *Ovis poli* are locally known. The horns mean nothing to the native *shikari*, who hunts only for the meat and skins. Winter is the favorite time for hunting, as then the *gulja* come lower in the valleys, where snow is less deep and food easier for the sheep to reach. Sometimes the native *shikaris* build blinds by piling stones together, and behind these wait for

the slowly moving sheep to approach within the limited range of their ancient fire-arms; sometimes several Kirghiz drive the animals past the blinds. The results are shown by old poli heads which dot the plains and are seen in great numbers around every Kirghiz camping ground.

Prior to the war there were few, if any, modern arms among the Kirghiz, though now increasing numbers are finding their way into the Pamirs from Russia. We noticed a few old flintlocks but the usual native weapon is the matchlock. We had opportunities to examine several of these ancient weapons and an obliging Kirghiz even went through the operations of loading and firing one for us.

The gun had a heavy octagonal barrel about forty inches long and a short, crudely-made stock. The bore was octagonal, about half an inch in diameter and had a slight twist. The lock consisted of a small powder-pan—covered when not in use by a piece of raw-hide wound about it—and a movable, forked holder for the wick, which could be brought down to the powder-pan by pulling a projecting end below. The projecting end of the wick-carrier, the “trigger,” was operated by a thong, as its position was such that it could not be reached by the hand of the shooter. A forked rest, attached to the barrel about a foot from the muzzle, could be folded up when not in use, giving the gun, when carried slung across the owner's back, a vague resemblance to a hay-fork. Crude open sights completed the arm.

Firing one of these remarkable pieces of ordnance is a feat to test the nerves. The charge is rammed home, the pan is primed from a horn of powder,

flint and steel are used to ignite a bit of twisted cotton, which is blown into a glow and inserted in the "hammer." The marksman kneels or lies prone, using the forked rest—the piece is never fired off-hand; it is too muzzle-heavy. The glowing match is brought into contact with the powder-pan, a geyser of smoke and flame erupts and, after an appreciable interval, the affair goes off with a quite respectable bang. The useful range is somewhat less than a hundred yards. One wonders that mountain sheep can be killed with such crude weapons but many old poli horns bear mute testimony to their effectiveness when coupled with Kirghiz patience. With the advent of more modern firearms and the absence of any restrictions, it is to be feared that in a few years the herds of Marco Polo's sheep will be materially decreased.

Deep snow and daily storms made it advisable to move the scene of our hunting further into the country where, according to reports, we would find poli more plentiful and would not be handicapped by such deep drifts. A two-day journey took our small caravan past Kizil Rabat to Ak-tsoi, a district of the "Little Pamir" near the Afghan border. On the way we stopped at the Post and were again entertained by our friends, the Russian Officers, who very thoughtfully sent messengers ahead to Kirghiz camps, so that *yurts* might be ready for our use. The Commander asked how many *gulja* we wished to shoot. Receiving our reply that ten would probably be sufficient, he seemed surprised and suggested that we had come a long way, spent much money, and endured great hardships for such a small number.

His idea that a hundred *Ovis poli* would be about the proper number amused us, though it was cheering to learn that the animals were plentiful.

After leaving the snowy country below Peyik Pass, we saw many marmots on the hillsides. They were noticeably red in color and about the size of the North American woodchuck. The familiar rock-pigeons were absent, as were the *chikor*, or hill partridge, seen in such numbers in the Himalaya. There were many small gray birds in the valleys, though we could not identify them. Two or three ducks, a loon, and a goose we saw at a distance. Large blackbirds, about the size of crows but with red beaks, were common, and large eagles soared gracefully above us at different times.

While at Kizil Rabat we inquired the distance to various places and found accurate information difficult to obtain. Ak-tsoi was at first said to be sixteen miles away, then thirty-two, then four. It all depended on the various methods of measuring distance. One unit of measure was the distance a shout could be heard.

As we approached the site of our new camp at Ak-tsoi there appeared, high on the mountain just behind it, two bands of poli ewes and young. We counted eighty altogether as, stopping frequently to look at us, they went slowly upward.

Several days spent in combing the country around Ak-tsoi showed us that, though poli were there in large numbers, it was a most difficult district to work. Valleys were open and almost without cover, making long waits necessary to approach herds closely enough even to judge the sheep. Furthermore, we saw no

large heads, though some two hundred rams came at various times under our observation. Nor was our campsite ideal, for melted snow was the only water supply and *teyzak* for fuel had to be brought several miles. So, when the Kirghiz told us of another district, called by them *Dung-gelduk*, two marches away, we decided to move again.

The first three or four miles of the trail from *Ak-tsoi* was up a wide valley in the midst of a white world where snow covered everything to a depth of fully two feet. Some Pamir valleys in May are quite devoid of snow, while in others deep drifts lie until early June. Altitude appears to have but little bearing on the matter, as some of the more snowy districts are lower than those where drifts quickly disappear. This climatic difference was very noticeable as we moved about the Pamirs.

Just before leaving the snowy valley for a smaller and more rocky, but less white one, eight *poli* were sighted. One of them proved to be interesting and a sharp dash across the valley brought us behind a steep little ridge, up which we trudged on foot. But we made the mistake of not following the sheep-hunter's maxim, "when in doubt go to the top," and found ourselves suddenly looking eye-to-eye into the face of a small ram. He wasted no time trying to stare us out of countenance, but joined his friends, and the eight began to make sheep-tracks. I was able to stop the last one, which, while carrying horns of but fifty inches in curl, gave us an almost undamaged complete skeleton, a necessary and welcome addition to the collection.

Our Kashmiri staff and the pony-men, being

Mohammedans, were constantly asking us to shoot many poli and to allow them to cut the throats and so make *hallal*, without which no true believer may eat the meat. But as I had previously had experience with *hallal* in Kashmir, when some specimens were ruined by having the necks badly slashed, I refused permission for any of our men, except the head *shikari*, to touch the animals, and promised to buy the staff some domestic sheep at the next Kirghiz camp.

Following the packtrain, we reached a wide valley where we found a *yurt* ready for us in a large Kirghiz camp of five families, surrounded by herds of sheep, yaks, and camels, and as usual, many snarling dogs.

When we wished to buy two sheep, we were asked twenty-five rupees each and were told that in Andijan sheep cost from fifty to sixty rupees each. Yaks were said to be worth about a hundred and sixty-five rupees each. At that rate, all the people around there were rich. We heard a tale of five men who got together ten *lakhs* of rupees (one million rupees) and bought sheep and yaks on speculation. They drove the animals to Andijan and sold them at a comfortable profit. And those were the people to whom one was supposed to give *bakshish*!

Next day, two *yurts* for our use were dismantled and loaded on four protesting camels, which were added to our caravan of twenty ponies and six yaks. A march of about ten miles brought us into the long narrow valley locally known as Dung-gelduk *Jilga*. Just after entering the valley we saw fifteen poli on the hills and while looking for a campsite, a band of thirty ewes and young appeared, about a mile beyond.

The day after our arrival at Dung-gelduk, Clark had some work to do on the specimens already obtained, so I went out with Pelang, Hassan, and Jonkul, a local Kirghiz. About a mile up the valley Pelang's truly remarkable eyes picked out something far ahead. Through glasses, I made out a large bunch of sheep, so we left the yaks and crawled to a little rise. There were thirty-eight rams, of various ages and sizes, in the first lot, with several herds in the further distance, totaling altogether, fully one hundred *Ovis poli* within our view. We decided that we should back trail, and cross a deeply snow covered summit behind the sheep, in the hope of getting above them.

We walked up a sloping fan, and stopped among some large boulders to have another look at the rams. At first they could not be located. Then we discovered that the herd of thirty-eight had split; eight had descended to the frozen stream bed while the remainder had climbed higher up the slope. We cached ourselves among the rocks, while the eight rams ascended the opposite side of the valley, fed a bit, lay down, got up and slowly worked upward a little way toward us. They finally lay down in an exposed position and we began a vigil that lasted from just after daylight until midday. One person was always on the lookout at the fifty power telescope. The rams lay among rocks and snow and one showed a head which seemed to have a remarkable curl, even though we had long since become skeptical regarding first impressions of poli horns. *Colonnas*, the Turki word for big, seemed to be frequently used in conversation between Hassan and

Pelang, so I had hopes, though disappointments had made me want to read the tape before passing judgment on a head of Marco Polo's wild sheep.

The usual daily storm came up the valley and when the snow squall grew more dense, we chanced a move. At the bottom a projecting spur hid us, so we mounted our yaks and hurried across to the further protection of other ridges. We continued about half a mile, at last leaving the yaks tied, or rather anchored, to boulders, and crept forward and upward over broken rocks and snow. During a short halt for breath, we discovered that the rams had arisen and were coming across the slopes in our direction. We hurried onward, as fast as my low-country lungs would permit, to some large boulders near the edge of a dry wash which gave an opportunity for concealment. While Hassan was carefully scanning the upper slopes I happened to look past his shoulder and was startled to see three white rumps not over forty yards away. I nudged Hassan, "shushed" Pelang and Jonkul who were just behind, and we watched the three rams. Unfortunately I had "frozen" in a most uncomfortable position, but there was no chance to shift as they leisurely fed down toward us. One passed out of sight not over fifteen yards away. Marmots were whistling in the valley and this danger signal frequently caused the rams to jerk their heads erect. None of the three had big horns, though Pelang tapped my foot and made motions that the lower one was very large. That is one trouble with local *shikaris*; be they ever so good as hunters and stalkers, when they get close to game, every head is a big one.

How long we lay within thirty yards of the three rams would be hard to say. It seemed long, for though I was intensely interested, my cramped position took much of the joy from the situation. At last I thought there was a chance of slowly shifting, while all three had their heads down feeding. I eased over, moving my rifle as I did so. This brought me facing uphill, a direction in which none of us had been looking. Not over twenty-five yards away stood a big ram, which none of us had seen, staring fixedly at the strange objects below him. I was quite as startled as he, but managed to keep some few wits about me. His horns at that short distance looked huge. I whispered to Hassan to remain quiet and fervently hoped that Pelang and the Kirghiz would continue to watch the sheep below. As I gradually swung around facing the big fellow, he jumped and dashed up the hill. There was a momentary glimpse of several other great heads and then all disappeared. Impious thoughts began to stream through my mind as we all plunged upward through the snow. Snap-shooting at running sheep, after a sharp dash uphill over rough country in high altitudes, is not one of the best things I do and I began to curse heartily with what little breath I had.

Luck was with us, however, for the rams, true to their instinct, ran directly uphill away from the source of danger. They had made a glorious picture as they bounded over the snow, but I had no time for the beauties of nature. However, as we reached a ridge we saw them again.

Hassan, excitedly using the glasses, indicated that the leader was the largest. It was a very simple

shot, not over fifty yards. Another was easily accounted for; two hurried shots were misses but the fifth brought down the third ram. We watched the last, which was thought to be smaller than the others, until he neared the top. Suddenly Hassan whispered that this one had a head fully as large as the first and I was fortunately able to stop him just as he was disappearing behind the ridge. All were within a hundred and fifty yards—a rare bit of luck which gave us four excellent specimens, the finest we had seen.

Measurements and preparation took much time and necessitated a return the following day. While watching the rams during the morning, a gray wolf had been seen in the distance, so, as a precaution against possible depredations, articles of clothing were placed over the sheep, in the hope that a combination of various human scents, Kashmiri, Kirghiz, Sarikoli, and American, might be sufficient to frighten away almost any hungry marauder.

The first ram proved to have the longest curl— $57\frac{1}{2}$ inches, with a spread of 41 inches and a base of $14\frac{1}{2}$ inches. He was ten years old, according to the record of the annular rings of his horns. Though his horns were slightly longer than those of the other rams, which were $56\frac{1}{2}$, 55, and 56 inches, respectively, they measured less around the base. The others were noticeably heavier, the largest being $16\frac{1}{4}$ inches.

From experience gained in measuring many old heads, from study and observation of fully a thousand living animals, and from the specimens collected by us, we came to the conclusion that the present

average length of adult *Ovis poli* heads is about fifty-two inches. Doubtless there are many living poli with horns of much greater length; very possibly a world's record now ranges somewhere among the secluded valleys of the Pamirs, but both Clark and I are thoroughly convinced that during our month we saw none larger than the 57½ inch head we obtained. From examination of old heads and of those collected, our judgment is that sixteen inches is nearly a maximum base measurement; probably an average circumference would be about fifteen inches for full-grown rams.

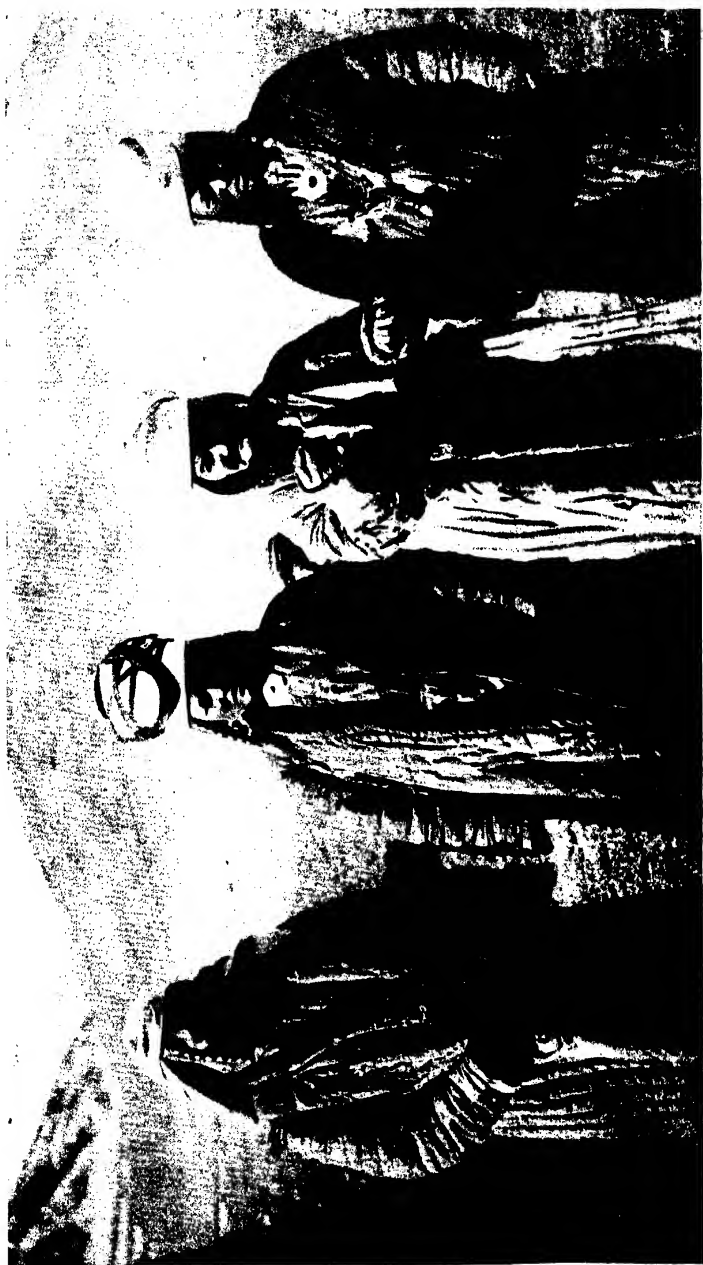
In general, the horns of *Ovis poli* form an open spiral, extending widely from the face and making more than a complete circle. Usually they are not "nipped in" at the bottom of the first curl, as are those of *Ovis ammon*, their cousins of the Altai Mountains. There were exceptions to this rule, however. Several specimens were observed to carry horns of the same type as those of *Ovis canadensis* of North America; one old fellow, whose right horn was broken about level with his face, had the left curving close to his cheek and up past his eye, with a curl much like that of a big Alberta ram. Others had the horns nipped in close to the face with the wide flares typical of the Altai sheep.

We saw many rams with broken horns during our month of observation and hunting. Nearly always it was the right horn which was broken; often the stump appeared little over a foot long and usually the break looked clean and square. It is probable that the breaks are caused by fighting though possibly accidents cause a few. One ram, with an other-

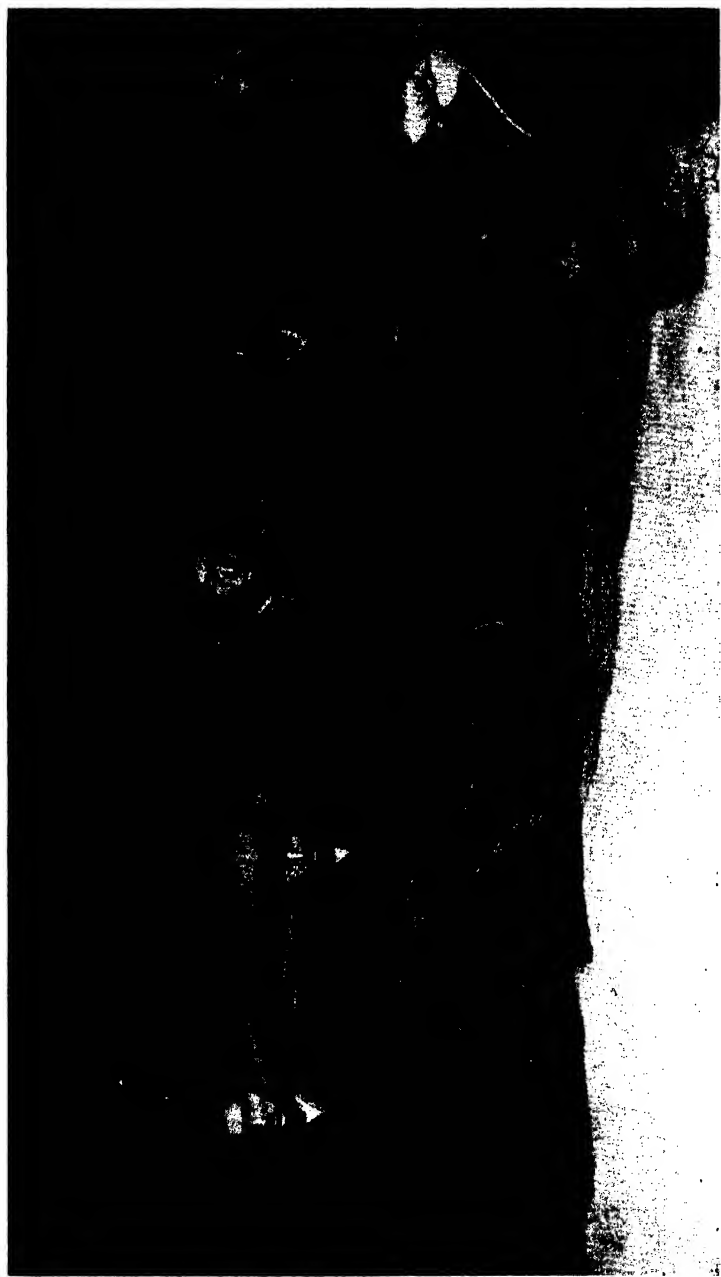
wise beautiful head, had the cores of both horns showing for several inches along the tops; he was probably an old battler. In many instances, of course, the tips of horns were broken or worn away by rubbing against the rocks; nearly all our big rams would have been at least three inches longer but for that fact. Every adult male we obtained showed scars on the head due to fighting and there were always rubbed spots on the front of each shoulder, caused by the great horns when the animal turned his head. In every specimen the hair on the back of the lower front legs was badly worn away from pawing through the snow crust.

All the sheep collected were in excellent winter pelage and their heavy coats made them appear larger than they really were. In early morning light and at a distance, *poli* appear creamy white with brownish saddles. Closer examination confirms the first impression except that between the white and brown there is an intermediate grayish tinge which blends the two and runs up the back of the neck. The gray fades out just back of the horns, where the hair is almost white. The horns are yellow-white, much the shade of old ivory. In bright noonday light, when the mirage makes all objects at a distance indistinct, counter shading will sometimes cause a band of *Ovis poli* to become almost invisible against slides of broken rock not over two hundred yards away.

Summer coats, which are those most often seen on the specimens obtained by hunters, are short and differ somewhat from the winter pelage. The real winter coat can be seen only on specimens col-



KIRGHIZ WOMEN OF THE RUSSIAN PAMIRS.



KIRGHIZ MEN IN A YURT. THE MAN ON THE RIGHT IS A SARIKOLI FROM THE TAGDUMBASH PAMIR.

lected in the winter or early spring. We were most fortunate to be able to complete our work before the summer shedding began; it was just starting when we left the Pamirs the end of May.

The Pamir sheep are surprisingly lightly built and their bones are very delicate for animals living in rugged country where travelling through deep snow is necessary during much of the year. Clark said that poli bones were more brittle than those of any other wild animal he had handled. Neither are these sheep exceptionally muscular, no more so, in fact, than the Virginia deer of North America. The necks of the rams seem lightly built for the carrying of such heavy heads. A carefully weighed ram totalled two hundred and thirty-nine pounds, though in the fall he would probably have weighed from twenty-five to fifty pounds more. There was practically no fat on any of the specimens we collected in the Pamirs; all were very thin, with ribs showing noticeably.

The lives of the poli must be made miserable by the great number of parasites infesting them. All adults collected by us had quantities of grubs under the skins; sometimes large areas, especially along the back, would be found perforated by the repulsive looking insects, and the hair would be quite loose at those points. Grubs were found in the noses of many specimens and all were infested with ticks. The ticks probably caused the frequent rubbing against rocks which we noticed.

In springtime the rams herd strictly by themselves and large males usually keep together, with sometimes a few youngsters of two or three years tagging

along. We only once saw a band of rams with a yearling in it; the little fellow was so small he looked like a ewe, but he bore himself with all the masculine assurance of a youth out with his elders; in fact he seemed to be "feeling his oats." Large herds of ewes and yearlings were common during early May, but about the twentieth, the ewes became scarce and the yearlings were seen in groups by themselves or with one or two immature rams. We first saw new-born lambs on May twenty-fourth, then in increasing numbers. The ewes probably seek secluded places among the peaks at lambing time, which would account for their scarcity at that season.

The first young lamb was pretty wobbly on its tiny legs and the solicitude shown by the mother was very touching. We first sighted the ewe from a distance and were attracted by her strange actions. She appeared lost for she walked uncertainly forward, stood to gaze back, and then returned a little way, apparently to feed. It was only when we looked carefully with the telescopes that we could distinguish the tiny dark gray form of the lamb stumbling along after its mother. Later, when we tried to capture one of the youngsters, we found that they attained surprising agility in a few days.

The spring diet of the poli is apparently limited. Here and there among the rocks grow tiny bunches of grass with wire-like leaves and about the middle of May a variety of wild onion appears in sandy areas. We saw the sheep pawing through the sand to obtain the first shoots of the onions which had not yet reached the surface. That these form a considerable portion of their spring forage was attested by the

odor of the animals and the strong flavor of their meat. Later in the season there is probably more grass among the hills; when we left the Pamirs in early June a greenish tinge was becoming noticeable particularly on the more sandy slopes.

For two more days we hunted the valleys about Dung-gelduk but though we counted seventy more rams, none were what we needed. A herd of thirty ibex was seen not far from camp where they were grazing within a few hundred yards of a band of poli. The ibex were noticeably lighter on the back and darker on the underbody than the poli.

There were many marmots about, fat reddish fellows who sat up near their burrows and squeaked excitedly as we passed. Large hares scurried from in front of our yaks, and their rapidly moving legs reminded one of the drivers and side-rods of a locomotive travelling at high speed, an illusion which their long upright ears, looking vaguely like an engine's stack, served to heighten. Many *ram chikor*, the snow partridge common in high altitudes of the Himalaya, whistled their rising notes on the hills above, or clucking wildly, sailed through the air to places of fancied greater security.

We left Dung-gelduk the fifteenth of May on a clear bright morning when, though hot in the sun, the atmospheric dryness kept one from perspiring. Seven poli rams, high above, watched us break camp.

There was no snow in the valleys nor on the lower hillsides, though several feet of ice still lay in the creekbed. Brown and red mountains with rocky summits and sloping slides of talus made the landscape look like Arizona and New Mexico. In places

it reminded one of the Mojave Desert, and a scattered growth of *tushin* or *burtsa*, the low sage-like growth used extensively for fuel in the Pamirs, served to strengthen the resemblance. As the sun rose higher, mirages wavered and flowed over the ground, making objects at a distance appear much larger than they really were. Once we stopped and got out glasses to observe what we took for half a dozen animals feeding on the flat ahead, but they turned out to be bunches of *burtsa*, enlarged by the mirage to seem about the height of an animal.

There were evidences that a road had once been cleared of stones and marked out along the floor of the valley we followed, and we heard that the route from Kizil Rabat to Pamirski Post (Murghabi), had formerly passed that way, though now it runs more directly. We learned that carts are used for light transport between the two posts, so the route must be fairly good.

Near Dung-gelduk Kul, a small ice-bound pond, we collected a poli *māhdīn*, or female, for the group, the stalk taking but a few minutes. Several bands of sheep were seen from near camp that night, so a day was spent in looking them over. As no Kirghiz encampments were near, no *yurts* were available, and our tents were used for the only time in the Pamirs.

While at that camp, Ol Futt Shah, the Sarikoli interpreter from Kizil Rabat, passed on his way to Murghabi, and stopped to enable me to send a letter to the Commanding Officer of that post. Since Ol Futt Shah had been of great assistance to us I made him a present of a small telescope. To one of the "syndicate" which had raised a million rupees to

speculate in sheep, a money present did not seem in order, though he would doubtless have accepted one. We parted with many expressions of mutual esteem.

None of the thirty-five poli seen from that camp proved what was needed, so the march was resumed across a wide sandy plain where a haze cut from view many of the surrounding hills and gave the effect of a vast desert expanse. There had been some *burtsa* growing but as we progressed, always ascending, this disappeared and only a few sparse bits of dry grass were dotted here and there. Shallow valleys between low ridges showed indications that water collected there with the melting of the snows but it must disappear very early, for only the extreme tops of the higher hills showed any white in mid-May. Though sheep spoor was fairly plentiful all over the plain, we saw no signs of life except a few small birds. Even the marmots seemed to prefer the higher valleys. One could hardly wonder, for in summer the heat must be very fierce on that flat sandy desert.

The hills of our new hunting grounds, called Kuz-gun, were rounded and their tops were not so rocky as in the country we had left. There were almost no cliffs and the slopes were of gravel, sand and shale. The bleaching poli heads lying about were bigger than in Dung-gelduk, though there they were larger than any previously seen.

We had been told that at the new camp we would have to import fuel from a distance and melt snow to get water. It looked discouraging as we proceeded up a small valley, for there was absolutely no growing thing and no water in the dry stream bed. About half way up, however, water suddenly appeared in

the creek and came in waves as though just released. As we progressed, the flow increased, and investigation proved that the flow did not start until late afternoon when water from melting snow reached the valley, where it sank into the sand before reaching the plains below. We found a grassy flat between slopes of rounded hills, an excellent campsite except for the lack of fuel.

As we made camp, two rams looked us over from a nearby hilltop, while several ewes appeared for a moment on the skyline, stared at us and disappeared. The rams, however, just looked fixedly awhile, then calmly began to feed near the summit. It looked like good sheep country, for we had seen two bands of ewes on the plain just before reaching the hills.

We stayed but three days at Kuzgun, for though many poli were seen, none were just what we needed to complete the collection. Clark and I covered the district for miles in every direction without locating the desired specimens. The collection needed a yearling or two and a female, and we wished, if possible, to find an even larger ram. The latter was our chief concern, for ewes and yearlings were plentiful enough.

One afternoon, while I was scanning the slopes from a concealed position among broken rocks near the top of a ridge, four ewes and two yearlings approached to within about a hundred yards of me. I was tempted to pick off one of the youngsters but contented myself with watching them. The little chaps were excellent travellers over the broken rocks. Their little horns, which had just started, were not over an inch long, and their color was noticeably

different from that of the older animals. It was more uniform over the whole body and might be called a "mouse-gray."

Another day, as my two men and I were riding our yaks down a draw over slide rock, snow and sand, something which looked like a tangled mass of red rolled down across our path, perhaps fifty yards ahead. Suddenly the situation dawned on the three of us at once: it was a fox trying to kill a marmot. I leaped to the ground, dragged my rifle from the scabbard and fired hurriedly. But the fox caught the movement and streaked across the slide, while the marmot after a rather dazed moment, dived into a deep crevice in the rocks, apparently none the worse for the encounter.

The Kirghiz reported that there was a better district only a few miles away, so we decided to move, for in two days we had covered the neighborhood of Kuzgun pretty thoroughly.

On the way to Ak-jilga or "White Valley," our new camp, we crossed a plain composed of coarse sand and small broken rocks. The whole country around there was just desert and supported but a scant growth of coarse grass, which grew in tiny bunches. Small streams coming down from melting snow on the hill tops seldom reached the valley floors but died out in the sand part way down. It was a most forbidding region, though the hills looked more like "sheep country" than the rockier districts near Kizil Rabat and Dung-gelduk.

As we topped a rise, a glorious panorama of the Mustagh-Ata, "Father of the Snows," due east in Chinese Turkestan, broke on our view. Great snow

fields and tremendous glaciers pierced the clouds that hung on the flanks of the peaks, one of which is over 24,000 feet and one about 22,000 feet.

I took a magnetic bearing in an attempt to locate our position more closely. We were due west of Karasu, a small village near the foot of the 22,000 foot peak of the Mustagh-Ata. The Chinese frontier runs just west of the Mustagh-Ata, our map showing a continuous ridge at the border. The ridge looked, however, to be a broken country of hills and valleys, with nothing continuous about it.

Our new camp was near some Kirghiz *yurts* and flocks of domestic sheep and goats dotted the nearby plain. As we approached the Kirghiz camp, to our amazement one of the *yurts* slowly moved about fifty yards to the bank of a small stony creek. No means of locomotion were visible until several Kirghiz came out. They had simply moved the *yurt* to a fresh spot for our use.

We stayed ten days at Ak-jilga, as we found that the neighborhood contained greater numbers of *Ovis poli* than any we had visited. Each day we covered many miles on yaks. Sometimes we worked together but more often went in different directions, and both of us always saw poli in herds of from two or three to nearly a hundred. One day I counted one hundred and sixteen rams and twenty-three ewes and young. That same day, in another section, Clark counted thirty-four rams and sixty-eight ewes and young animals; a total for the two of us, of one hundred and fifty rams and ninety-one ewes and young in a single day's hunting. There were probably more that we did not count that day, for Hassan

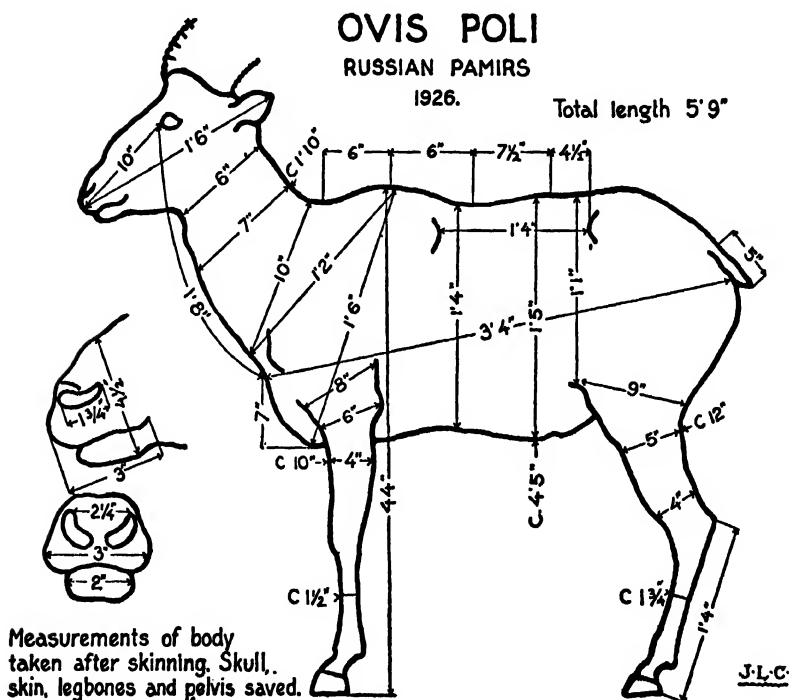
told me he had seen two bands below a hill from which I was observing a distant herd. It was, without doubt, the greatest bit of wild sheep country it had been my good fortune to see. Many of the rams had large heads and we were constantly on the lookout for one that might be larger than the biggest we already had. But though numbers of big rams were carefully examined through glasses and telescopes, all but two were adjudged no greater than the specimens already obtained.

One of the two was seen with seven other rams, lying in an unapproachable position on an open hillside and a long cold vigil was brought to an end by darkness without the rams having moved from their point of vantage. We searched the neighborhood two days after that without success; then on the third day we saw them, but again they could not be reached. Another period of watchful waiting was rewarded not long before dusk, by the rams very deliberately feeding down into a wide but shallow valley below our position. A careful advance, snake-wise, brought us within range and a single shot, at approximately two hundred yards, bagged the prize. It was a big symmetrical head, $56\frac{3}{4}$ inches around the curl, an excellent addition to the group.

On another day, the last spent at Ak-jilga, Clark brought in one of the finest rams of the collection. While looking at a herd, and studying them, their conformations and setting, he chanced to be looking carefully at one when it turned its head. The size impressed him so greatly that he worked closer. By a well executed stalk he approached within range and shot the ram at an estimated one hundred and

fifty yards. Its horns, $57\frac{1}{4}$ inches, were easily the most beautiful pair seen and formed a fitting climax to our work in the Pamirs.

While at Ak-jilga we were also able to complete



the collection with a two-year-old ram, another ewe and two yearling rams. A previous ewe, collected near Dung-gelduk Kul, had been a two-year-old; the second was an adult and the complete skeleton was preserved. From this animal was taken an unborn lamb, which was saved to form a not unimportant part of the scientific collection. The foetus was a male, twenty-six inches long and about eighteen

inches high. The color was uniform dark gray, a contrast with the lighter coloring of the adult animals.

Marco Polo's wild sheep—that is, the *Ovis poli*—seems to be considered by the world at large as an exceedingly rare animal. As I said in the opening chapter, when I first made inquiries regarding the possibility of collecting a series of these animals, everything I heard was discouraging. They were said to be almost extinct—at any rate no good specimens had been brought out from the Pamirs in recent years. I noticed, however, that all the reports came from the Chinese side of the border, and that no recent expedition had operated in Russian territory. When Clark and I reached the Russian Pamirs events proved that I had been correct in my assumption that *Ovis poli*, while scarce in Chinese territory, were plentiful in the Russian Pamirs. During our month in that region we counted 1052 rams and 607 females and young. These figures are undoubtedly on the conservative side, for we made generous allowances for possible duplications. Furthermore, in this number no animals that we did not actually see and count ourselves were included. In several cases our *shikaris* told us of large herds which they had seen, but as we did not actually see them ourselves, they were not included in the total.

Roughly the range of *Ovis poli* may be said to extend from the Thian Shan mountains on the north, south through the Pamirs to the Valley of the Oxus, usually at an altitude of from twelve to eighteen thousand feet. Through the Tagdumbash Pamir a few *poli* are still seen occasionally, but whether through

years of hunting or other causes, this section is now almost devoid of them. On the west they are said to extend to the limits of the Pamir. We were told that the sheep were found practically everywhere in the Pamirs, and though we hunted a considerable territory in actual area, we saw but a small portion of their range. It would be impossible to estimate the number of *Ovis poli* now ranging in the Pamirs but it is certain that they are far from extinct.

Some zoologists have considered that *Ovis poli* is a race of *Ovis ammon*. Other authorities, however, place *Ovis poli* as a separate species of the genus *Ovis*. But such problems must be decided elsewhere. It is not the province of this book to enter the field of technical discussion.

The name *ammon*, it is interesting to note, was given to the *argali*, as the wild sheep of Tibet and Central Asia are known, by Linnaeus in the Eighteenth Century. The name seems to have been applied to these sheep because their spiral horns are similar in shape to the horn of the curly ram, which was sacred to the Egyptian god Ammon, who is often pictured in Egyptian carvings with a ram's head.

Other large animals of the Pamirs are ibex, wolves, foxes, snow-leopards, and bears. We saw numbers of ibex, which usually range among the higher and more rocky hills dividing the valleys, though once a herd of ibex was seen low on the slopes not far from a large band of *poli*. Doubtless they descend into the valleys to feed at times, but most of their time is spent high on the hills among the rocks. Old ibex horns were seen at several places, though not



MOTION PICTURE CAMERA READY TO TAKE TELEPHOTO PICTURES OF APPROACHING OVIS POLI.



WILLIAM J. MORDEN WITH BIG POLI RAM. RUSSIAN PAMIRS.

in the numbers that sheep heads were found. The Kirghiz do not kill many ibex, probably because the sheep are easier to get and their meat is better. The Pamir ibex are closely related to those of the Himalaya, and the distribution is practically continuous from Baltistan, Gilgit, and Hunza, through the Karakoram and Hindu Kush ranges to the Pamirs. We saw ibex in Hunza near the Mintaka Pass and at Peyik, just inside the Tagdumbash, as well as elsewhere in the Pamirs.

Wolves and foxes are common all over the Pamir region. Natives reported that wolves were very plentiful, particularly in the Great Pamir, where they were a pest which decimated the domestic flocks of the Kirghiz. The single specimen which came under our observation was a beautiful silvery gray and was somewhat smaller than a North American timber wolf. We saw many wolf tracks in fresh snow and some otherwise inexplicable movements of bands of pqli were doubtless due to the unseen presence of these marauders.

We saw many red foxes; their activities were apparently confined to rabbits and marmots, though on one occasion a herd of poli fled wildly uphill before the advance of a single fox. Their coloring was a faded reddish yellow, not the rather pleasing shade of the North American red fox.

We saw no snow-leopards, though natives said that they were seen occasionally. A few tracks in the snow were the only evidences of their presence, but as the ounce, or snow-leopard (*Felis uncia*), is almost entirely nocturnal, it was not surprising that we did not see them.

One day while watching a distant band of poli from a point of vantage, a sudden commotion among our men denoted something unusual. I caught the Hindustani word *balu*, or bear, and turning, saw a big bear with two cubs rapidly climbing a rock-slide some three hundred yards to our right. Clark and I jumped for our rifles but by the time we could make ready, several of our "savages" had moved in front of us. By the time they moved away the bears had reached the ridge and were out of range. A breathless ascent followed, but no sign of the animals could be found, though the country appeared open for miles beyond. The old sow had looked large, with a heavy coat of fur much like that of a big silver-tip grizzly. The Kirghiz told us that bears, though sometimes seen, were not common in the Pamirs. Those we saw probably belonged to the *Ursus arctos* group, of which the Himalayan brown bear (*Ursus arctos isabellinus*) is a member.

By the end of May our work in the Pamirs was finished and we made ready to leave. The altitude and steady hard work had begun to tell on us and our nerves were a bit ragged. All during our month in the high altitudes we had been bothered by awaking at night fighting for breath, and acclimatization had not seemed to come as rapidly as we had hoped it might. In the daytime we were usually quite comfortable when we remained quiet, but the slightest exertion, even so small as that required in bending over to tie a shoe-lace, caused gasping spells which were most unpleasant. When lighting a pipe, too, it would often be necessary to stop and gasp for air, though the smoking itself had a sedative effect.

Sometimes we would be sitting quietly and our breathing and heart action would be entirely normal; then without warning, a feeling that it was impossible to get enough air into our lungs would come upon us and we would gasp and struggle for breath until the spasm passed. Altogether it was not an entirely pleasant land in which to make a prolonged sojourn.

Poor food too, probably had something to do with our condition, for we were living mostly on sheep meat, rather poorly cooked by our Kashmiri staff. In the fall, wild sheep meat is one of the finest delicacies in the world but in springtime the animals are very lean and the lack of fat makes a noticeable difference in their flavor. To add to our discomfort we ran out of sugar, but sent a messenger on a several days' march to Tashkurgan, where sugar was obtainable at two and a half rupees, or about ninety cents, per pound.

On May 31st, we left Ak-jilga and crossed the low divide back into Chinese Turkestan. Glorious views of the Mustagh-Ata showed in front of us and the Kungur *massif* appeared dimly in the haze towards the north. Our Kashgar ponies had been sent back a few days before, as the men claimed there was insufficient forage for them, so for our onward journey camels, yaks, and ponies were obtained from local Kirghiz.

CHAPTER IV

THE OASES OF KASHGARIA

DARKNESS enveloped us before we came to our first night's halt in Kashgaria, but we had already formed our first impressions of the immediate territory. Though it grew weirdly dark, and the horses stumbled badly along the crude path, we knew that near-by, at our right, rose the tremendous Mustagh-Ata—"Father of the Snows"—one of the loftiest mountains of Asia north of the Karakoram. About twenty miles to the north, Kungur towered in huge masses. Our last view, before the peaks disappeared in the evening clouds, had shown us a strong contrast between the reds and browns of the slopes and the blue and white of the ice-fields. Along the trail little bunches of purple irises lent their touch of color to the sandy soil. We were glad to come out of the barren Pamirs into a more smiling land. Our first night's stop was at a place known as Mus Karaul, where a hospitable Kirghiz placed a *yurt* at our disposal.

For the first portion of the next march a good trail led along a valley between the Mustagh-Ata and the Sarikol Range, whose rounded hills form the boundary between Chinese and Russian territories. Grass grew luxuriantly in much of the valley. Several birds with white heads, rusty necks and bodies, white

under-wings with black borders, and white tails, were feeding in swampy ground near a small stream. We decided that they were probably a form of shel-drake. The little gray birds of the Pamirs were in evidence and a large flock of black-birds flew across ahead of the caravan, while several larger gray birds, which looked like grouse, rose from the grass on our approach. There were also some lovely little birds with bright yellow heads and black and white bodies which played about all along the trail. Altogether, it was one of the most pleasing marches we had made.

At a cluster of *yurts* known as Subashi we obtained new transport, which was arranged for us by an orderly from the *Amban* at Tashkurgan. From here, the trail became rougher and led past the small lake of Little Kara Kul with the snow peaks of Kungur close on our right.

Clark and I rode ahead of the caravan with a local guide from Subashi, the orderly from Tashkurgan, and Rahima, our camera boy. When it became too dark for a stranger to follow the dim rough trail, the guide took the lead. We could not see our horses' heads and could keep the trail and pace only by sounds and occasional sparks from the iron-shod hoofs of the leading horse.

At last, the barking of dogs told us that we were near habitations of some sort, and then a dim structure appeared. In the morning it proved to be the gate of a Chinese mud fort, but in the darkness we could distinguish nothing. Much shouting called forth a sleepy Chinese soldier, who led us to a *yurt* which had been cleared for us. A Kirghiz woman

came and made a fire of *burtsa* and small wood fagots, the first wood we had seen since leaving Murkushi, in Hunza.

A Chinese brought a sheep, which he killed before the fire, then a large iron bowl was put on an iron tripod over the fire, and the sheep meat was stewed. We each took a good drink of the broth, while the guide, the orderly, the Chinese and our boy all ate noisily of the meat. The Kirghiz woman brought in some not too clean-looking quilts and we all wrapped up and stretched out on the floor, dead for sleep.

We had now begun a restful interlude between the hunting in the Pamirs and the equally strenuous work in the Thian Shan. Before us lay about three weeks of travel through four hundred miles of the more settled portions of Sin Kiang, a region of rivers, oases and cultivated fields, known roughly as Kashgaria, and lying on the edge of the Takla Makan Desert.

In the oases of Kashgaria one may see a civilization, such as it is, which has been scarcely changed through centuries. Where water is easily had for irrigation, there is an aspect of deep peace and contentment among the people, who till their little fields and live their lives with never a thought or care of the outside world. For Kashgaria is so cut off from the rest of Asia by great mountains that the agricultural population of its oases has been little affected by the march of time, though the country has had one of the stormiest political histories of any section of Asia. It has been conquered and lost, reconquered and again lost, by many different peo-

ples; the Chinese alone have won it no less than five times.

Our first objective in this region was the City of Kashgar, where we hoped to receive definite word about our meeting with Roy Chapman Andrews. At Kashgar, also, we were to divide our baggage, and send back the results of the Pamir hunt by way of India. From where we came out of the Pamirs, Kashgar is about a hundred and twenty miles to the northeast; we planned to make it in five stages.

The way lies, for more than half the distance, along the path of small streams between great mountain masses. Just after passing a ruined fort of granite boulders at Tarbashi, the trail enters the defile or gorges of the Gez River, where the canyon walls rise, in many places, for from a thousand to two thousand feet, and it is only by utilizing the slides of broken stone, that a trail is possible at all. At one place, two huge buttresses project from either side, and the trail is built up and cut out from sheer cliffs. Steps have been cut from the solid rock, and the outside is further built out with brush and stones piled on props and pegs let into the face of the cliff.

Masses of drift and unmistakable moraines indicate that at some remote period great glaciers extended from an ice-cap on Kungur, whose granite peaks are weathered into pinnacles and bold outlines. The prevailing color tone is brown with reddish tinges and here and there a touch of yellow. The whole defile is on a stupendous scale and one feels as though one were at the bottom of the Grand Canyon of the Colorado. The river is nowhere more than forty feet wide, but its fall is steep and it

tumbles over large boulders and pours through many rapids.

When we reached the little stone-and-mud walled enclosure of the serai at Gez Karaul, a wood fire reminded us that we had descended again to below timber line. The air, too, had lost the keen qualities of the high country and was more filling to the lungs. We could carry on without discomfort for distances that would have required several breathless halts a few days earlier.

On leaving Gez Karaul, the trail crosses the river by another of the rickety, pole bridges which the Chinese deem sufficient. Then it winds along the river bottom, over sand and small round boulders—hard travelling for horses and camels. It was remarkable, however, what feats of climbing our Turk-estan camels accomplished.

Our first real trees, a small grove of poplars in an oasis called Kanruk Karaul, pleased us out of all proportion to their size. In a trader's house the parts of a new *yurt* were piled up ready for delivery. We had supposed that *yurts* were made by the users themselves, though standardization of design and construction should have told us that they must be made in quantities. As a matter of fact, a good business in *yurts* is done in the larger cities.

Just beyond Kanruk Karaul the trail required the fording of the river several times. The bed of Gez River here was full of boulders, and the swift current made difficult work for the lightly built ponies. When we arrived at the first ford, the Tashkurgan orderly, whose place it was to lead, funk'd it and suggested that we take a longer route to the plains, which

crosses seven passes. But Rousla, our cook, whom we had never considered much of a leader, pushed past him and rode into the river to a gravel bar. We worked upstream following the shallows diagonally across and came ashore with nothing worse than wet feet. Then Rousla and I went back and forth leading camels and ponies across, while the pony-men waded and steadied the loads. The Tashkurgan orderly, who looked like a bold bad bandit, fell off his horse when it stumbled, to the great joy of all present.

Down the valley, a dense cloud gathered and as we descended, we were enveloped in a dust and sand storm which would have done credit to the Sudan. It was our first experience with a *buran*, the violent windstorm of Central Asia, and it was not pleasant. Dust and sand filled eyes, noses, and ears. Even our mouths were gritty from the fine particles we inhaled. It was impossible to protect guns and cameras and they, as well as we, needed a thorough cleaning when shelter was finally reached.

On the day before we had sent a messenger ahead to Kashgar to announce our coming, so at the edge of the Tashmalik oasis we were met by a fine looking old *Beg*, who said he had come to show us the way into the village. We followed the guide through lanes between green fields of wheat and barley and at last reached the house of a trader, where we gladly took shelter from the *buran*.

The Tashmalik oasis, which is really the beginning of the Kashgar oasis, the largest in Turkestan, owes its being to the long sloping fan or delta of the Gez River. Coming from the mountains just above, the

Gez is tapped by many canals and this water is led by an intricate system of smaller channels into the fields. Beyond the oasis, sand and stony flats stretch away into the distance. Where sufficient water is available, however, the soil is fertile and deep. Corn, wheat, barley, rice, and cotton are the principal crops, though apricots, pears, peaches, nectarines, mulberries, plums, cherries, pomegranates, apples, and melons also grow well in the oases of Kashgaria. Potatoes, onions, spinach, and other vegetables are found in the bazaars, though I do not believe they are indigenous.

Before leaving Tashmalik, I asked Hassan, our *shikari*, how much, if anything, I should give the man in whose house we stayed, as he was said to be wealthy and was very dignified. Hassan said that two rupees would be enough, and apparently they were. Then I asked, as an afterthought, whether I should give anything to the fine looking old *Beg* who had met us. Hassan said another two rupees, and to my surprise he seemed glad to get it.

Except for a few comparatively short stretches across *sai*—rocky stretches of sand and boulders—the road for the rest of the way to Kashgar led through a continuous irrigated area. Much of it was along mud walled lanes, which in some places were several feet below the level of the surrounding fields. At first we thought this was due to the wear of travel but later decided that earth had been removed from the roads to build walls and houses. Though excellent care is taken of trees and growing things, little is done on the highways and they are often badly rutted and full of holes.

A striking feature of all the section about Kashgar is the soft pink color of the soil, which gives all buildings, however dilapidated, a special charm. It is similar to the color of the old Spanish missions in California, a shade which modern architects have struggled hard to copy. The soil about Kashgar is "loess"—fine dust deposited through the ages and caked in layers to depths of many feet. Wherever streams from the nearby hills furnish sufficient water the soil is extremely fertile, and the green of Kashgarian oases, contrasting with the yellowish-pink tones of the soil, is most pleasing. A characteristic of the loess soil is its tendency to break up in vertical cleavages, which form low but often picturesque bluffs along roads and rivers. The same formation is very prominent around Aksu, nearly three hundred miles to the northeast.

Just before reaching Kashgar, we stopped for tiffin at Kuzgun, a small village which seemed mostly bazaar. The town afforded a sort of open-air restaurant under big poplar and willow trees and this was prepared for us by the spreading of a couple of *numdahs*, while the village carpenter, whose shop opened off one side of the platform, made tea. We drank the tea while most of the inhabitants looked on, and we felt somewhat like animals in a zoo, stared at by a constantly growing crowd. When I offered *bakshish* to the carpenter and again to the local *Beg*, both smilingly refused it. They deserve at least an honorable mention as being unique in the East.

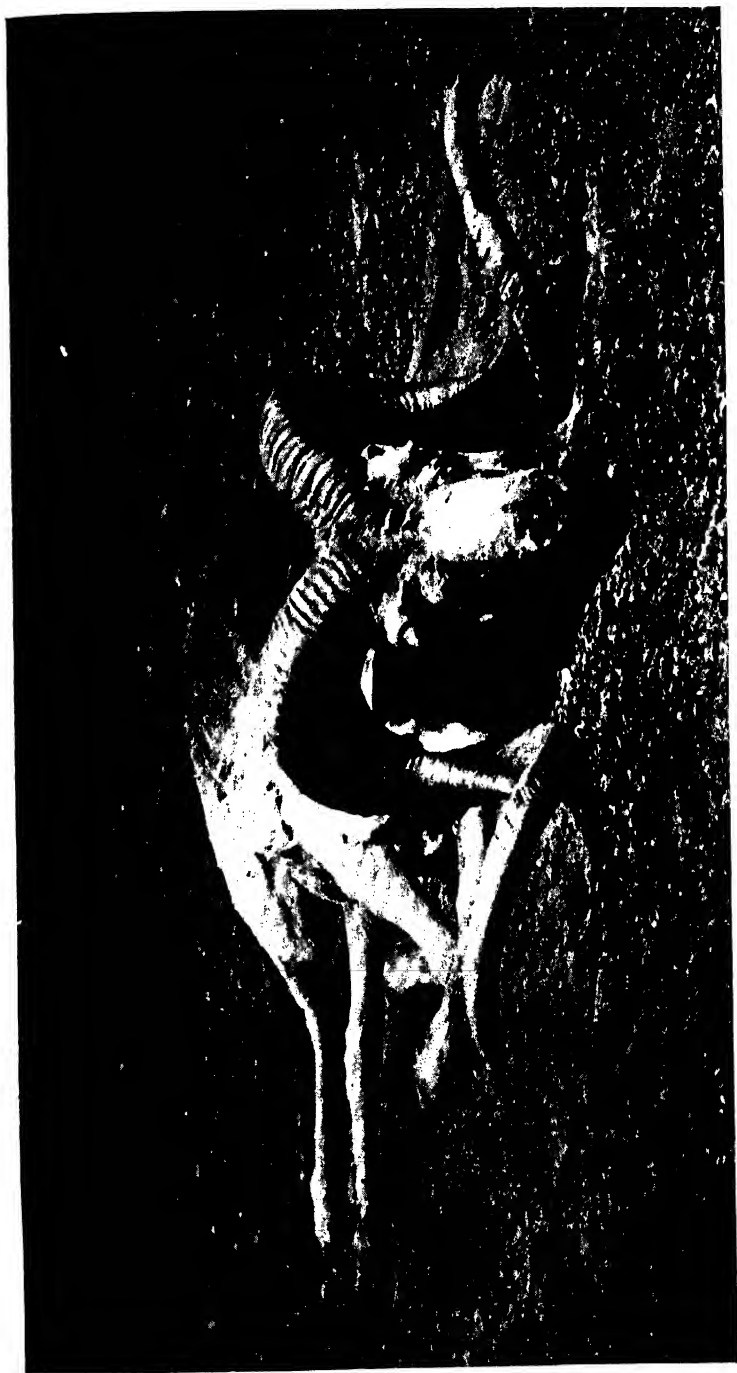
As we approached Kashgar, the mud houses and walls, the lanes lined with poplars and willows, the little irrigation ditches along the road and the desert

beyond, all reminded me of Egypt. We pounded through a long bazaar street and up to the British Consulate General, where Major Gillan, the Consul General, welcomed us. Major and Mrs. Gillan were charming hosts and we made our home with them throughout our stay in the city. The friendliness of this delightful English couple there in the heart of Asia was something of which we often spoke in the months that followed.

The Consulate is a plastered building of many rooms, situated in a beautiful garden on a low bluff overlooking the cultivated flat of the Tumen River. Further west a range of low hills shows yellow and eroded, while on occasional clear days, from the roof of the main Consulate building, views of distant snowy peaks show the Thian Shan rising far to the north. Southward, the white wall of the Kashgar Range seems unbroken and it is hard to believe that a trail leads through it.

A long low building containing the offices, an entrance gateway and numerous separate living quarters compose the town side of the Consulate compound; two of these living rooms, each with bath, were assigned to us, as the main building had no guest rooms.

We made haste to call upon the Chinese authorities and our first official call was on the Foreign Secretary to the *Taotai*, or Local Governor. We were unable to see the *Taotai*, for he was still in mourning for his father, who had died about a month before. The Foreign Secretary, Mr. Tao, spoke excellent English, and was a bright, wide-awake young chap. A table, spread with candy,



LARGE OVIS POLI SHOT BY JAMES L. CLARK, RUSSIAN PAMIRS.



A ROUGH TRAIL IN THE GEZ CANYON.

little rice cakes, and some sort of egg rolls, was pushed up and tea in china cups was brought. Over this, Mr. Tao asked us concerning our journey and our plans, looked at our passports and visas, a letter from the Chinese Minister in London, and our Arms Permit from Peking. He kept the passports to add a further visa for all Sin Kiang.

Chinese Turkestan, or Sin Kiang, is ruled by the *Chiang Chun* or Provincial Governor, who resides at Urumchi, the capital. Under the Chiang Chun are Local Governors, or *Taoyins* as they are properly called, though the old title under the Empire, *Taotai*, is more often used for them. The eight *Taotais* in Sin Kiang administer the districts of Altai (on the Mongolian border), Chuguchak, Ili, Urumchi, Aksu, Kara Shar, Kashgar, and Khotan, and each has under him several sub-governors or magistrates, properly known by their Chinese title of *Hsien-Yin*. The *Hsien-Yins* are usually referred to as *Ambans*, though *Amban* is a title of respect which may be applied to other officials. All these higher officials are Chinese, but the *Begs*, their subordinates, who collect taxes, arrange irrigation matters and attend to other small items of government, are always Turkis.

After leaving Mr. Tao we rode next with our mounted orderly to call on the Russian Consul General, Mr. Doumpis. The Russian Consulate General is an imposing collection of well built brick buildings, arranged around a large compound and surrounded by a high fence. Before the war a full regiment of Cossacks was stationed there as Consular Guard. Now, however, there are only ten persons in the

Consular Staff and most of the buildings are unused, though they seem to be well kept up.

Mr. Doumpis, the Consul General, and his Secretary, Mr. Kisseleff, met us at the door of the main building and took us into a large but rather bare room, hung with pictures of Lenin, Trotzky, and several other Bolshevik leaders. A table was spread with apricots, cherries, and various little cakes and candies. We had tea in glasses, brought by a Turki servant and into it were put several chunks of Russian sugar, so common in Turkestan. We found the Consul General, who had been an engineer before the Revolution, very pleasant and willing to do whatever he could to assist us as our plans matured.

Later we went to tea at the Swedish mission, where there were about six or eight people, most of whom spoke a little English. One cadaverous chap with a deep voice and no smile was funny. Mrs. Gillan said that when she first met him, he spoke no word for a long time but finally intoned, "Would you like to see our graveyard?"

A few years ago the Chinese Government built a series of radio stations at Kashgar, Urumchi, and Urga in Mongolia. These form a chain of communication, through the station at Mukden in Manchuria, connecting Turkestan and Peking. As the station at Urga is now in the hands of the Mongols, Chinese stations do not communicate with it, though the Urumchi station can talk directly with Mukden. One can also send radio messages from Kashgar to the outside world via Peshawar in India, whence messages are forwarded by cable.

It was essential at Kashgar to settle the question

whether we were to meet Roy Chapman Andrews at Hami as planned. We had been hoping for a message but had received none, so I decided to cable him. As a cable to Peking via Misgar would take nearly a month for an answer, I suggested trying the radio station at Kashgar, which is a first class plant on the edge of the desert about five or six miles from town.

Major Gillan said that it was in working order, but that due to a dispute with the Government of India over division of rates, the Chinese Department of Telegraphs had ordered the operators to accept and receive no messages for India and beyond. However, he thought that I, being a private individual, might get them to send a message for me by agreeing to pay the toll they asked.

The two young Chinese lads who ran the plant agreed to send a message via Peshawar if I would pay the full rate; they said that Peshawar had called them every day for six months, but that they had not replied since January. There must have been surprise, to say the least, in the sending room at the Peshawar radio station, when Kashgar at last answered and sent my message.

I received an answer from Andrews which read, "Impossible leave Peking." We learned later that Andrews had made repeated attempts to get his expedition into the field but each time the fighting around Peking had made the start impossible. It was a bitter disappointment to him and to us, and forced us to decide immediately on other plans for leaving the country when our work should be finished.

We did not wish to retrace our steps to Kashmir

and India, if it could be avoided. One of the chief objects of our expedition had been to give Clark an opportunity to study the habitats of the many specimens already collected in Mongolia by the Third Asiatic Expedition under Roy Andrews, for an accurate knowledge of the country which forms the background of exhibits is of the greatest importance in their preparation. This, a return to India would fail to do. Furthermore, we hoped to locate and obtain specimens of the saiga antelope (*Saiga tatarica*), an interesting and rare variety which ranges in parts of western Mongolia. As regards time, there seemed little difference between continuing eastward and returning to Kashmir.

There was a choice of several routes eastward which we might take after leaving the Thian Shan, though each was open to objections. The Kansu Trade Route to China was temporarily out of the question, as Feng-yu-hsien's defeated army was running wild along its eastern end. We could travel northward from the Thian Shan across Dzungaria to the Trans-Siberian Railway, but that route would not take us through the country where Andrews had collected his specimens. Discussion finally brought about our decision to attempt to cross Mongolia by caravan, although little information could be obtained concerning possible difficulties ahead of us. The Chinese could tell us practically nothing, for their authority in Outer Mongolia had long since ceased. Neither could the Russian Consul do much for us, though he readily agreed to request Moscow to instruct Soviet Consuls in Mongolia to assist us whenever possible.

Our Kashmiris were to return and take our collection back with them after we left the Thian Shan, so we decided to take with us from Kashgar one more man as cook and interpreter. One excellent man, whom we were about to engage, was, unfortunately for him, charged with murder and on that account could not obtain permission to leave Kashgar. So we hired Mohamed Rahim, an Argon-Ladakhi, whose chits showed that he had been twice with Sir Aurel Stein, with Prince Pedro d'Orleans, and with several other Asian travellers. He was about forty-five years old, quiet and well-mannered, and spoke Urdu, Turki, Tibetan, Ladakhi, and a little Chinese. Mohamed proved thoroughly trustworthy and gave us excellent service.

The Kashgar *Taotai's* month of mourning for his father was about up, so according to custom, he walked clothed in sackcloth and girdled with ropes in a big parade through the city. A great number of large banners bearing inscriptions in Chinese characters, were carried by very shabby soldiers of the garrison. Each banner was the gift of some prominent person. The *Taotai's* horse and his state carriage, a curious little coupé with shuttered windows, and his quite gorgeously decorative *mapa*, or two-wheeled cart, were all in the procession. But the main objects of interest were great numbers of paper men, horses, houses, money, soldiers, and servants, everything which supposedly made up the household of the departed. These were all borne along, to be burned in a huge bonfire near the edge of town. During the burning, many fire-crackers were set off and the *Taotai* prostrated himself three times in the dust be-

fore his father's picture, which was enthroned in a much decorated palanquin. A few soldiers, armed with an amazing collection of long and short rifles, helped swell the procession, while two bands made discordant music which sounded vaguely like a funeral march.

A majority of the eighty thousand people in Kashgar are Turkis, the natives of Turkestan. The aboriginal inhabitants of Kashgaria are believed to have been Aryan tribes, but conquests by various races have left a certain mixture of Turkish and Mongol bloods, which show in dark complexions and slight elongations of the eyes. One sees, however, types in the oases on the western edges of the Takla Makan Desert that are similar to those in parts of the Italian Alps and the Caucasus. The conquerors, whose blood might have materially changed the physical characteristics of the Turkis, all passed on, for a rainfall of only two or three inches per year will not grow the grass needed by the pastoral peoples who have made the great Asian migrations. In the *Geographical Journal*, May, 1925, Sir Aurel Stein says: "Nature, by denying grazing-grounds to the vast basin between Kunlun and Thian Shan, has protected it against ever becoming the scene of great migratory movements and of such upheavals as are bound to accompany them." It was through the Tarim Basin, lying between the Thian Shan and the Kunlun-Karakoram ranges, that silk was first brought from China to the Mediterranean. In the first century of the Christian Era, Buddhism, too, found its way from India across the Takla Makan Desert and through Central Asia to China. But,

in spite of outside influences and repeated conquests, the people of the Kashgarian oases, deeply rooted in the soil, have preserved a racial continuity unique in Central Asian history.

South of the Thian Shan the people are known as Turkis, though they also speak of themselves by the names of their towns, such as Kashgarlik, Turfanlik, etc. North of the mountains, however, they go by the name of "Chanto." This literally means "wound round their heads," or "turban-wearers," and is a generic term used by the Chinese for all Mohammedan-Turki sedentary people. "Sart," the term for the sedentary population of Russian Central Asia, is the corresponding name in Russian.

Turkis or Chantos are Mohammedans of the Sunni sect and each little village has its small mosque, one side of which, usually a blank wall, faces west toward Mecca.

The tomb of Hazrat Apak, a priest-king who ruled Kashgaria during the Seventeenth Century, and even had followers in India and China, is a very sacred shrine in Kashgar and is each year the object of pilgrimage for many Turkis. The saint's memory is deeply venerated by the people of Kashgar, who credit him with many miracles and hold him second only to Mohammed. The road to the shrine is lined on both sides with tombs, as it is considered most excellent to be buried near the saint. The tomb itself is a large, domed, brick structure, faced with glazed tiles. The guardian of the tomb opened the great door, secured by a huge Chinese padlock, and we were permitted to peer into the dim interior, where dusty sarcophagi reposed among equally dusty

banners. There is a considerable revenue collected from pilgrims to the shrine and one third of this is said to be retained by the guardian, which should make the position fairly lucrative. Hundreds of beggars ply their calling near Hazrat Apak's tomb and about the city; there is even a large beggar colony with its own "king" in one section.

Another day, when wandering about Kashgar, we rode through narrow winding streets to a Chinese temple, perched on a high point from which much of the city could be seen. It was just inside the city walls and was almost the only Chinese building within them. This temple was built by a Chinese general to commemorate, so the story goes, the sudden bursting forth of a spring when he was hard pressed by enemies and in need of water. It is true there is a flowing spring just below the temple hill. The inside of the building is much like other Chinese temples and contains several large seated figures in silk-curtained niches with half-burned sticks of incense before them.

On our arrival at Kashgar we had changed our remaining Indian rupees into Kashgar "taels," though the transaction took considerable bargaining, for rates rose as soon as the Indian traders learned we wanted exchange. I also bought some gold roubles of the old Imperial Russian coinage, which were not current but could be exchanged in the bazaars of Aksu and Urumchi and were less bulky to carry than large bundles of paper taels. Several issues of taels are used in different districts of Chinese Turkestan. Around Kashgar, the Kashgar tael is current; between Aksu and Urumchi the Urumchi tael is the

medium; we also heard of Ili taels and silver taels.

Depending on exchange, the Kashgar tael is worth from sixty to ninety cents and three Urumchi taels are approximately one Kashgar tael. Both varieties are printed on rather heavy paper, always in one tael notes. As might be expected, much of the money is in such a dilapidated condition that it is almost impossible to handle. Bundles of one hundred taels are used for larger units and seem to be seldom opened for counting. Quarter-tael notes, worth four "tengas," are in circulation, as are copper coins of small denomination; the latter are similar to the familiar perforated Chinese "cash."

We heard that the Kashgar and Ili currency have a certain backing of silver, as they are used in trade between Sin-Kiang, India and Russia; the Urumchi tael, on the other hand, is local and is entirely a fiat currency, with no backing except the governor's "chop" or seal. Naturally its value is somewhat unstable.

Several thousand paper taels made a rather bulky mass, so we endeavored to obtain notes of greater denomination, but learned that nothing larger was issued. When I enquired the reason, I was told that were large notes issued, there would doubtless be considerable counterfeiting. As the penalty for that crime is death, the Governor felt that he was saving the lives of many of his people by not putting temptation in their way, since he thought the incentive with only single-tael notes not great enough to encourage counterfeiting.

A considerable trade is done in Kashgar, principally with Russian territory by way of Andijan,

which lies about two weeks by caravan to the westward. Wool, sheepskins, and cotton are the principal exports, and iron, oil, and manufactured goods from Russia are brought back. There are a few shallow oil wells not far from Kashgar but their development by the Chinese is of no great importance to date.

There is also considerable trade between Kashgaria and India over the Karakoram Pass to Leh, in Ladakh, the highest trade route in the world. Indian residents in Kashgar and other cities through Kashgaria are engaged in trade via the Karakoram-Ladakh route and the care of their interests forms one of the chief duties of the British Consul General. *Aksakals*, or native Consular Representatives, are stationed in various cities and assist the Consul General in smaller matters connected with British subjects in Sin Kiang. Through the courtesy of Major Gillan, who instructed them to aid us when we were in their districts, the British *Aksakals* assisted us in obtaining supplies and transport at various points along our route to the Thian Shan.

In the Kashgar bazaars we were able to buy staple articles of food, such as rice, flour, tea, sugar, and salt, in sufficient quantities to last until our arrival at Urumchi in September. Clark made an inventory of our stores and from it a chart, which enabled us to ration such luxuries as jam, butter, chocolate, and tinned milk. We made it a point never to open jam and butter at the same time. To our surprise, we discovered some cocoa in the bazaar. Though it was expensive, we bought several tins and found the cocoa, made with thoroughly boiled local milk, most useful on part of the journey to Aksu, as much of

the water along that road was so salty that it was nearly undrinkable.

Much of our time in Kashgar was taken up in packing our Pamir specimens and the film so far exposed, for shipment back to Kashmir with three of our staff. They were to take it over the Karakoram trade route to Leh and Srinagar, a journey of two and a half months, so the collection had to be packed in felt-covered boxes for protection from the weather and extremes of temperature. Though we hated to let it out of our sight, everything arrived in New York in good condition.

For transport of our heavy baggage to Aksu we hired three *arabas*—heavy, cumbersome, two-wheeled Chinese carts with six-foot wheels and eight-foot gauge. The big wheels allow the carts to cross ditches with little bumping and the wide treads assist in steadying the vehicle when one wheel dips into a hole in the road. *Arabas* are drawn by from two to five horses, the driver sitting on the shafts when the road is good and walking when difficult conditions are encountered. The harness is almost impossible to describe; it is made of bits of rope and leather put together in a tangled mass which no white man could ever understand. When five horses are used, two are hitched beside the wheelhorse, with the others ahead in tandem. The load is well balanced over the crudely hewn wooden axle, so that little of it rests on the horse between the shafts. As *arabas* make very slow time, we sent them off ahead in charge of two of our Kashmiri staff.

In addition to the *arabas*, we hired three *mapas*, lighter and less cumbersome carts with narrow, cov-

ered bodies. The *mapas* were drawn by three horses each and in them rode Hassan Bat, our *shikari*, and Rousla, our cook. Our immediate stores were carried on the *mapas* with the idea that we would stop where they did and would have our food and kit each night. Actually we seldom saw them, so slept in our clothes and ate when and what we could. We travelled on ponies loaned us by Chinese officials and kept Mohamed Rahim, our new man, with us to act as guide, interpreter, and cook.

Some of the horses had to be shod before we started. The Turki method of horseshoeing consists of tying the animal's body to a horizontal bar, his head to one upright, and his hind legs to another, while the foot being shod is also roped. At first we thought it was because they were afraid of the ponies, but concluded that it was because many of the horses were stallions, and a constant source of trouble.

In Kashgaria there is a period of cold weather during a part of the winter, when the temperature goes to about plus 5°. During that time, which is called the "Great Cold" and which lasts officially forty days from about December 22nd, a vigorously enforced Chinese law forbids any householder to refuse admittance to a traveller. We found the spirit of hospitality not entirely lacking among the Turkis, for at several places we were entertained at their houses. But we did not always fare so well. Once, when we needed to hire extra horses, our *yayin*, or orderly, had to use force with the local *Beg* in order to get the five horses requisitioned by the *Amban's* order. Few Turkis seem willing either to work for you or to allow their animals to work, and, without



A CITY GATE AT KASHGAR.



MARKET DAY AT THE BAZAAR IN KASHGAR.

a *yayin* along with the authority to demand transport and get it, one might wait days trying to persuade the villagers to furnish it. And one would be gloriously held-up for it, too.

An escort of two Chinese soldiers was furnished us by the *Taotai* of Kashgar and the *Amban* sent a *yayin* along to arrange for fresh riding ponies and for accommodations at the serais, or little native inns, along the road.

On our last morning in Kashgar, after our Pamir collection had begun its long journey back to Kashmir and our *arabas* and *mapas* had started northward with our kit, we paid our farewell call on our very good friends, Major and Mrs. Gillan, whose exceptionally charming hospitality we had enjoyed for twelve days. Major Gillan kindly offered to arrange for the transmission of messages to or from us and to assist our staff on their return from the Thian Shan to Kashmir.

From Kashgar to Maralbashi, a distance of a hundred and thirty-five miles, which we made in four stages, the way lies through flatter country than any we had traversed so far. The Kashgar oasis, watered by channels diverted from the Kashgar River, extends over forty miles to beyond Faizabad, so we were all the first day travelling among green fields and trees. A few *arabas* and *mapas* were moving in both directions, though owing to the heat and the flies along the way the bulk of travel is by night.

Tamarisk mounds form a characteristic feature of the country along much of the Kashgar-Aksu road. The bushy tamarisk growths catch drifting sand and dust, which gradually build the mounds higher, until

they rise sometimes to twenty feet or more from an otherwise level plain. Inside the larger mounds there are always masses of dead roots and branches which serve to hold them together. Usually the mounds have live tamarisks growing from sides and tops, though we saw considerable areas where the bushes were dead and only old roots protruding from them showed their origin.

Our midnight entry into Faizabad was through a covered bazaar-street where the darkness was tunnel-like. Dim forms of awakened natives rose out of the blackness and caused our ponies to dance about, to the peril of other outdoor sleepers along the street. We dismounted somewhat stiffly in the courtyard of a serai after our forty-mile ride and found that *numdahs* had been spread for us in a rather stuffy inner room. We were too sleepy to be particular, however.

The room was typical of most of those we used in the serais. It was about fifteen by twenty feet, brush roofed and mud walled, with a tiny fireplace at one end and a wide, raised, mud dais taking up about half the floor area. This was raised about two feet above the floor and on it we spread the felt *numdahs* provided for our bedding. When the door was closed, a hole in the roof let in a limited amount of light and air. Needless to say, our door was never closed. Most of the serais were frightfully dirty and often it was too hot to remain in the stuffy little rooms, so frequently we preferred to sleep out in the courtyard where the horses were tethered.

On leaving the Kashgar oasis beyond Faizabad, we entered an arid tract of sand and dust, and all

joy of travel disappeared. Heat, dust, and flies—with brackish water, unfit to drink even in tea—made travel by day a misery. Our five ponies raised clouds of dust. The *mapas* we passed always had Chinese in them, for Turkis either walked, rode donkeys or ponies, or used the lumbering *arabas*. They seemed not to mind the dust. Donkeys were the universal burden carriers in Sin-Kiang as in Egypt.

As dawn came one morning, we found ourselves in an area of scattered wild poplars, rather bunchy trees, not tall and stately like the Lombardy poplars. The tree-dotted plain reminded us of parts of Africa. One almost listened for the distant grunt of a lion.

Late in the evening of the fourth day out from Kashgar, a number of low buildings showed that we were nearing Maralbashi; then the high mud walls of the Chinese city appeared, looking quite impressive with their battlements outlined dimly in the faint moonlight. We entered a long covered bazaar street, where the only light was from occasional candles, or little rush-lights shaped much like Roman and Greek temple lamps. Some of the shops were still open and little groups of seated figures were visible through partly closed shutters as we threaded our way along among sleeping people and dogs. The British *Aksakal*, a pleasant-faced Turki who lived about a mile beyond the city, put us up in a guest house in his garden, for the serai in town was even worse than those along the road.

Our first duty in Maralbashi was to call on the *Amban*, whose *yamen*, or official residence, was in the walled city. The ride through the long covered bazaar street was interesting and the people along

the way stared frankly at us, for foreigners are an unusual sight in Maralbashi. Most of the men rose as we passed, though whether from politeness or curiosity we could not tell. The Turki greeting, with which they favored us, is a bow with one or both arms held across the stomach, and is a rather dignified form of salutation.

When we arrived at the outer gates of the *yamen*, many servants scattered ahead. We passed through two wide courts and alighted in front of a high gate, where we were met by an official who took our glaring red Chinese cards, which we had had printed for the purpose in Kashgar. Then we waited till another official came out through the big doors and smilingly bowed us in. He preceded us, holding the cards aloft in his right hand as one might bear a lighted torch. When we entered, three loud bangs behind us, from what we later discovered were wooden tubes in the ground, announced to the world that somebody in particular had arrived. In another court, a detail of gray clad soldiers presented arms and we passed through to an inner garden.

We then approached a small house beyond a little lake, where the doors opened and we were greeted by a young Chinese, whom we did not place until he sat down at the table with us. It was the act of an equal and we knew then that the youth must be the *Amban*. Two of our staff had been brought along to interpret, so with their help and the efforts of a tall, thin, and very sad looking Chinese interpreter who stood behind our host, we managed to convey our respects to the *Amban*. This long line of communication did not add to the jollity of the

occasion; conversation under such circumstances is difficult. Green tea in glasses, some sugared candies and English cigarettes were served, and a tame Yarkand stag and doe (*Cervus yarkandensis*) were led out for our amusement. These were full grown animals which the *Amban* said had been captured in the forests a few miles from Maralbashi. Like the tiger, which formerly ranged in the forests on the edges of the Tarim Basin and the swampy areas along the northern slopes of the Thian Shan, the Yarkand stag is practically extinct. We heard that a few stags were occasionally killed by native hunters, but the tiger seems to have been exterminated.

We waited for the *Amban* to dismiss us according to custom but he did not, so after a decent interval, we took our leave. He walked out to the front door with us while the guard again presented arms and the "trench mortars" popped off three more bangs. We had hardly settled down in our guest house when cards announced that the *Amban* had arrived to return our call.

The people of Maralbashi seemed to be of no distinct type. Some were dark, others light, some tall, others short. Some were almost pure Aryan in feature, others quite Mongolian, while a few seemed to be a mixture of the lot. One little man with a gray beard looked a perfect Irishman, and several we saw could be put into the Ghetto and not look out of place. A number of the women resembled North American Indian squaws, others might have been Greek or Spanish, though most had a touch of Mongolian about the eyes.

The usual Turki dress for summer includes a long

white cotton coat with long sleeves which envelop the hands, and baggy white trousers tucked into boots. These reach to the knee and have detachable slippers. A sash of colored cotton and a small round skull cap complete the costume. Many wear felt sun hats, with the brim turned up behind and on the sides, and down in front.

The women, particularly those of the upper classes, seem to prefer shades of red for gala attire, with green as second choice; the everyday dress is generally of white cotton cloth. A long garment covers loose trousers which are tucked into boots similar to the men's and the costume is topped off with a small round cap from the back of which hangs a long veil. Some of the women wear face veils, though the custom of veiling the face in public does not seem to be universal by any means. In the country the women were very shy and usually ran or hid their faces as we approached.

From Maralbashi to Aksu, a distance of a hundred and forty-seven miles, we were in less desert country and often made excellent time. Along some stretches there was a rather rank growth of grass and weeds, while once or twice water showed in marshy areas near the road. The soil looked fertile and where cultivated, appeared to raise excellent crops of grain and vegetables.

The Kashgar River, which our road roughly followed, ended in one of the marshes between Maralbashi and Char Bagh. It just entered the marsh and did not come out. But by the time it reached its end there was little water left, as most had been drawn off along the way for irrigation purposes.

One afternoon, while we were on the road, we saw six gazelle in an area of tamarisk mounds, and we were told that they were frequently seen along the road from Maralbashi to Aksu. The country in that vicinity affords excellent cover and it may be that they are not much hunted, for they did not seem to be at all nervous, although we were in full view hardly more than three hundred yards away. Undoubtedly they were Yarkand gazelle (*Gazella subgutturosa yarkandensis*), as this was within their known range. By the wayside we also saw larks, swallows, doves, a few crows, and an occasional hawk. In the towns we saw many beautiful domestic pigeons; some looked like pouters, some like carriers. In the courtyard of the serai at Tumshuk were several large black pigeons, which had a sort of protuberance or wattle over the beak.

Often there were stretches of sandy country where the air was very hot and still. Late one day we saw columns of dust, something like the "dust devils" of Africa, in many places across the sandy desert plain. One night when the inner room of the serai was too hot for us, we had our *numdahs* moved out into a small court next the stable yard. During the night a violent *buran* struck the place and almost buried us under sand and straw. The discomforts of day time again caused us to shift part of our travel to evening, and when the heat of the afternoon had gone the rides were very pleasant.

One night the north-bound Chinese mail carrier rode with us most of the way; fortunately he did not wear the usual string of bells around the neck of his horse. They are pretty to hear at a distance,

those bells, but would drive one mad on a long ride. The man we met was carrying the mail from Yaka-Kuduk to Chilan, a distance of twenty-eight miles, which he covered in about six hours at an easy pacing gait. Mail takes about four days from Kashgar to Aksu, a distance of some two hundred and eighty miles, but the carrier and his relays travel night and day.

Distances in Kashgaria are always stated in terms of *potais*, which seem to be variable but average about two and a half miles in length. *Potais* were originally watch towers, but the word has now come to denote the distance between towers. Near the village of Chilan, the ruin of a large wedge-shaped tower, or *potai*, rises from the plain; large towers are spaced about fifteen miles apart with smaller *potais* every two to three miles between them.

Noticeable features of the villages are the little bakeshops. The ovens are of mud and are about two and a half feet high, four to five feet long by three feet deep. A small hole at the bottom allows for draft, while a larger hole on top acts as chimney and as a space in which to place vessels when cooking. When the mud becomes hot, the fire is partly drawn; the hot coals are then spread and the dough, in small round cakes, is placed directly on the coals. The resulting bread is rather coarse and tough. The brown flour is locally ground between heavy round mill-stones turned by animal power. There is another kind of bread baked in flat loaves about a foot in diameter and about a quarter of an inch thick, and this is much better than the thicker variety, as the thinness seems to allow it to cook more thoroughly.

A few miles south of Aksu the road crosses the Aksu River, which is dangerous to attempt at night, so we remained at Oi-kol-bazaar until about midnight. The way lay through cultivated areas until we reached the flat of the Aksu River. Evidently we had arrived during a flood for the river was nearly half a mile wide and in several places trees and bushes were deep in water.

Some distance out in the current there appeared a scow, on which a *mapa*, several ponies, and some people seemed to be floating down the river. They grounded quite a way from shore on our side, where the *mapa* was rolled and lifted overboard into the shallow water, the ponies hitched up, and the party came ashore. Then about twenty men dragged the scow up to where we were. It was about thirty feet long by nearly fifteen wide, with long overhangs fore and aft, and was made of hewn three-inch planks held together by iron cleats. Wide compartments with eight-foot divisions allowed *mapas* to be rolled aboard, where they just fitted crossways, with their wheels blocked by the gunwales.

Our two *mapas*, which arrived while we waited for the ferry, were manhandled aboard with much shouting. After they were loaded amidships, eight ponies were dragged aboard fore and aft. A grand row immediately started, and for a short time there was a free-for-all pony fight, with heels flying, teeth snapping and Turkis yelling. The remaining horses were taken across by three or four men.

With its load of two *mapas*, eight horses, and about forty men, besides saddles, kits, and various personal belongings, the boat was pushed into the swift cur-

rent. In the bow, two crude sweeps, each manned by two men, assisted in keeping the craft in the current and though we grounded several times, they brought it to the opposite shore about half a mile below the starting point. Wheel tracks showed that the ferry usually landed there, but it seemed remarkable that the point could be gauged so closely.

The larger towns in Chinese Turkestan have an Old City (Kona Shar) and a New City (Yangi Shar). The Old City of Aksu dates back nearly a thousand years. The New City was built by the Chinese about 1860 and is almost exclusively inhabited by them, for the Turkis seem to prefer Kona Shar, the Old City, where most of the bazaars are located. High thick mud walls, with battlemented tops and bastions, enclose both cities, which are about seven miles apart. Gate-houses, of true Chinese design, guard the entrances and each gate is double, with a second gate beyond a court. The walls are about thirty feet high and would serve as a fair defense against a mob without artillery, though they are so long that at least a regiment would be needed to man them.

The *Taotai* of Aksu had ordered our *arabas* taken to a garden at Yangi Shar, where, under a lovely big tree, a platform had been spread with rugs and *numdahs* for our use. We had just finished washing up a bit when the card of the *Amban* of Yangi Shar announced his arrival. He proved to be a pleasant young man wearing heavy shell-rimmed glasses, and to our delight, he spoke excellent English, which he said he had learned at the American Y. M. C. A. school in Peking. When we said that we expected

to call on him and the *Taotai* later in the day, he suggested our going to his *yamen* first so that he might take us to see the *Taotai* and act as our interpreter. We were naturally very glad to avail ourselves of his offer.

The British *Aksakal* of Aksu came to inform us that thirty ponies, requested by Major Gillan for our use, were at Kona Shar, and suggested that we go there after calling on the officials at Yangi Shar. He said a comfortable campsite in a garden was ready for us, so we sent on our *arabas*, *mapas*, and men.

An orderly escorted us to the *yamen* of the *Amban*, who met us at the gate and led the way to a small house in his garden. A few refreshments were placed before us but the real surprise was some French champagne, which we learned came from Peking by caravan across the Gobi Desert, a journey of fully ten months. The conversation covered a wide range of subjects, as Mr. Pang-tsi-lu, our host, was well informed and an easy talker.

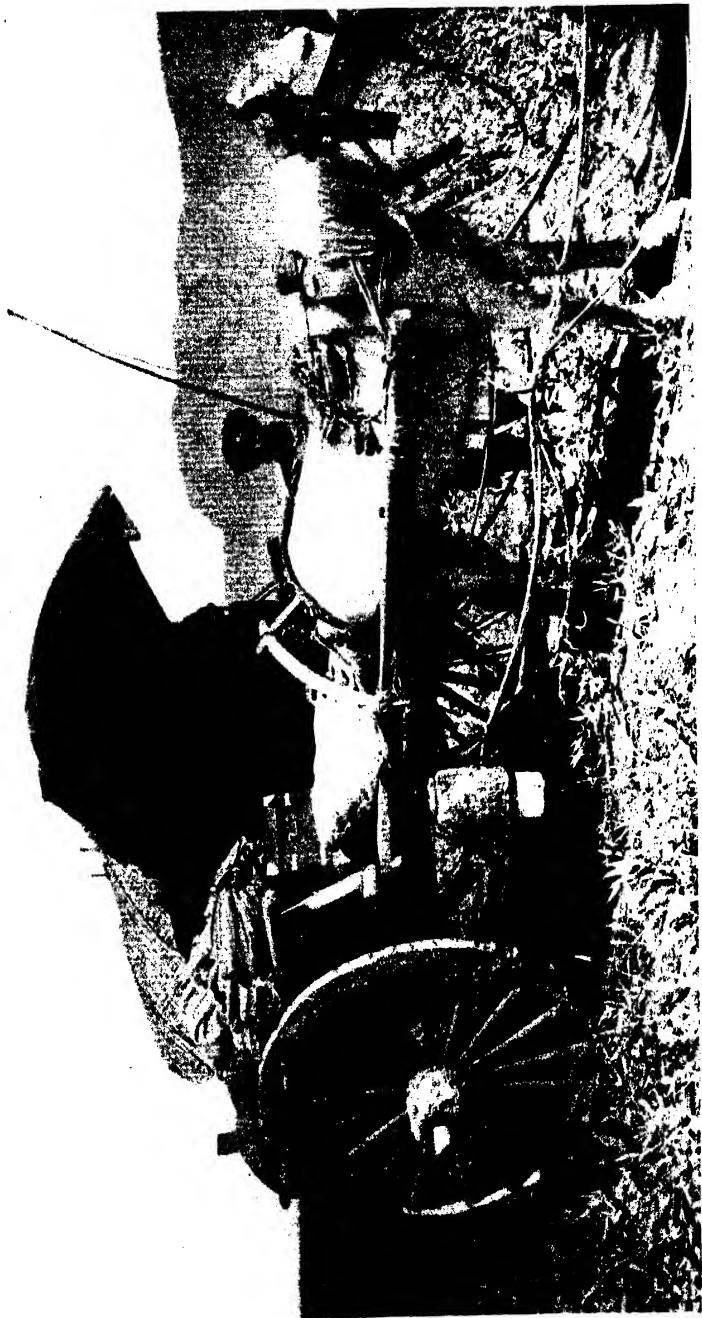
We called on the *Taotai*, of course, and found him a genial old chap of about sixty years, with a keen face and a hearty laugh. He was interested in our plans and seemed glad to see us. Though we had hoped to finish our social duties with that visit, we could not decently refuse an invitation to dinner with him for the following evening at seven.

An early breakfast next morning was just finished when the usual red paper card announced the arrival of the *Amban* of Kona Shar. He followed closely after his card and we hurriedly put on coats to receive him at the entrance of our arbor home. He

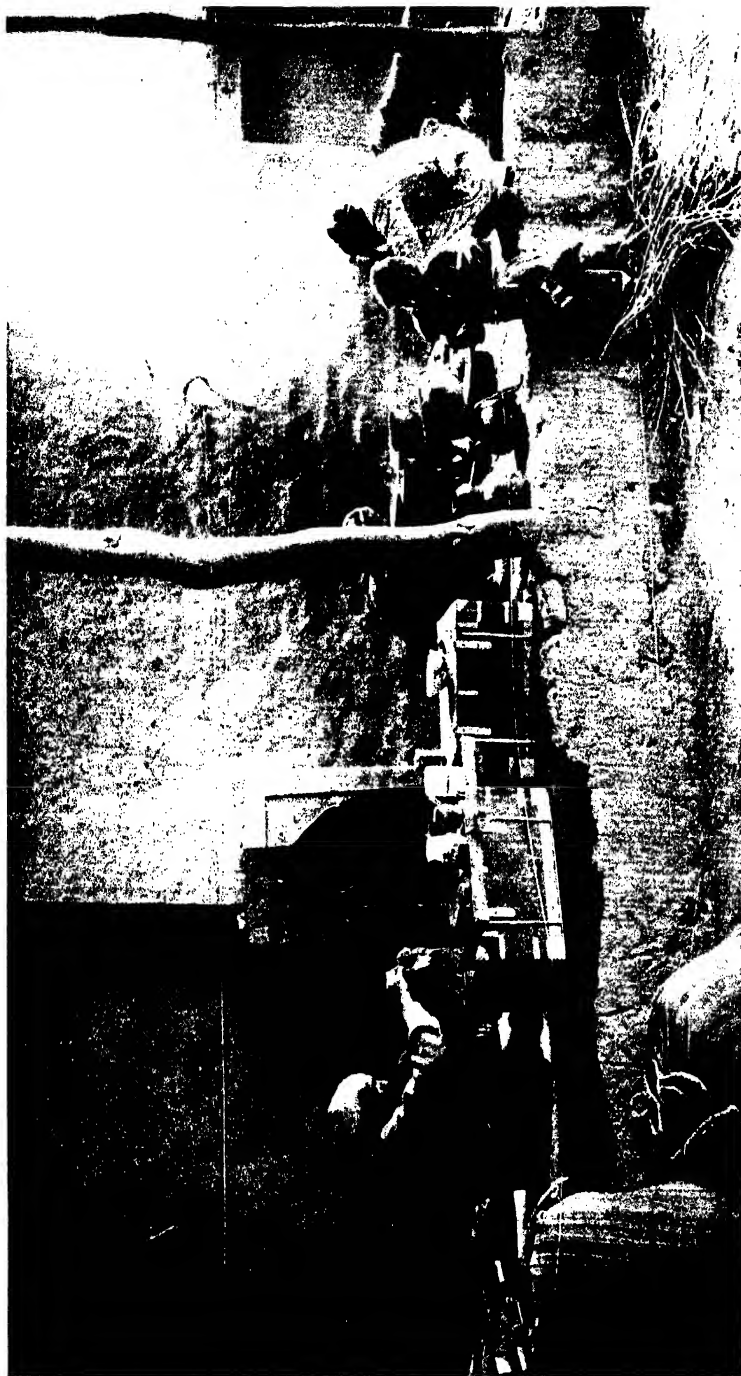
proved to be an elderly Chinese of the old type, with long thumb and finger nails and a small queue coiled on the back of his head. The Chinese custom is to have the head covered at ceremonies but all the officials whom we met adopted our ways and took off their hats when with us or at meals, though some wore skull caps. We did not find it necessary anywhere to wear head coverings when at dinners or ceremonies.

The *Amban* smoked a little metal water-pipe which an attendant carried for him. Another servant carried several long twists of paper, one of which the *Amban* held lighted in his hand while smoking. He took tiny pinches of coarse, stringy, greenish tobacco from a receptacle at the back of the pipe, packed them into the little bowl, blew on the taper until a small flame appeared, then took long inhales from the pipe and blew out the ashes. Each long pull seemed to require a reload.

At the *Taotai's* dinner in Yangi Shar there were Mr. Pang-tsi-lu, the Commander of Troops at Aksu, his adjutant, and two others. Tea and cakes were served in a little summerhouse, after which we walked along a lane of fine poplars to a good-sized building, where a table was literally covered with dishes containing an amazing variety of cold food. The *Taotai* insisted that we have some of each. I recognized sardines out of the lot, and many other dishes were excellent, if unknown. There was cognac, which was supposed to be drunk "bottoms up" at each helping. After a prolonged session of hors d'oeuvres and some three or four cognacs, soup was served. Then came fully fifteen courses. Champagne was



A MAPA. LIGHT CARTS OF THIS TYPE WERE USED BY THE EXPEDITION ON THE JOURNEY FROM KASHGAR TO AKSU.



COOKING IN A SERAI. THESE CRUDE INNS ARE THE CENTRAL ASIAN EQUIVALENTS OF THE HOTELS
OF MORE CIVILIZED LANDS.

poured throughout the meal and toasts to the better friendship of China and America were proposed, once by me and once by Pang-tsi-lu. Each time we all arose and touched glasses. The dinner lasted three hours, after which we adjourned to the summerhouse for tea, while an itinerant troupe of Chinese players gave several vaudeville acts of magic and songs.

Pang-tsi-lu called on us during the next afternoon, and brought a bottle of cognac and one of champagne as presents. We had given him a couple of English books and one of them, the "Travels of Marco Polo," seemed to please him greatly. Pang-tsi-lu was always welcome when he came to see us, for we found him excellent company and a most likeable chap.

At a dinner given us by the old *Amban* of Kona Shar, the meal was chiefly remarkable for the number of courses and the very terrible Chinese wine which he insisted we drink. It tasted like home brew which had gone wrong. Two of the courses were of baked meat and very good, another of roast chicken was also excellent, while some squabs were not too bad. Though we had knives and forks placed for our use, we used chopsticks as a compliment to our host.

About eight or nine police had been detailed to guard our camp, as thieves were said to be active at the time and the garden wall was partly broken in places. When we came home the first night from Yangi Shar, we found some men stretched out by our belongings, who began to beat sticks together as we approached. The next night there were stick beaters on all sides, except just beyond my bed, where an enthusiastic sleeper snored and snored. Whether

the watchers tapped to keep themselves awake, or each other awake, or to report that they were awake, or to notify possible marauders that they were awake, or to keep us awake, the results were the same. All would be quiet for a time, then a violent tapping would begin and would be taken up by the others, till the whole eight were tapping away like mad. Sometimes just one tapper would tap and would tap in vain, for no answering taps would gladden his ear and strike terror to prowlers. All combinations occurred at some time or other. Next to barking dogs, of which each Turki village has hordes that greet the traveller singly, in pairs, and in legion, I can recommend stick-tapping night watchmen as best guaranteed to banish sleep.

CHAPTER V

IN THE SHADOW OF THE THIAN SHAN

THE first of July saw us again on the trail after a busy four days at Aksu. The balance of our money had been changed to Urumchi taels, arrangements made for occasional messengers from the *Amban* to bring us mail, and a caravan of thirty ponies engaged for the trip to Kara Shar through the Thian Shan—the Celestial Mountains. It was no great distance to the foothills of the mountains, but the Muzart Pass, near which we planned to hunt roe-deer, lay seven days northeast of Aksu. Though a haze made the hills indistinct, glimpses of distant snowy crests told of the “celestial” beauties of the Thian Shan and we looked forward to their coolness after the heat and dust of the Kashgarian plains.

Beyond the winding bazaar streets of Aksu, we passed through a large Mohammedan cemetery, which covered several acres and contained hundreds of tombs. All were built of the usual yellow-pink mud and in size ranged from small affairs to elaborate mosque-like structures. Fortunately, heavy rains are almost unknown in Kashgaria or the whole country would dissolve.

In a little village along the road we stopped to watch a woman baking bread. The whitewashed inside walls of a large circular mud oven were heated

by a bed of coals from a fire of little twigs. Flat cakes of dough, about eighteen inches in diameter by half an inch thick, were put on a big round leather mitten, moistened with a thick flour paste and pressed against the inside of the oven, where they stuck. They cooked quickly and thoroughly and when well browned, were peeled off the walls with a pair of iron tongs. We ate this sort of bread several times and, except for a certain amount of stonedust in the flour, found it excellent.

Alfalfa is grown in many of the irrigated areas of Kashgaria and along the road from Aksu we saw contrivances used for hauling the hay. Two heavy poles, forming a pair of shafts, were held together by cross-pieces, a draft animal was hitched between the shafts and the hay was placed in a rack near the middle of the poles, the rear ends of which dragged along the ground. The affair was similar to the travois used by the plains Indians of North America and for that reason was very interesting. We later saw them used even more extensively.

At Jam, a small village twenty-six miles from Aksu, we spent a few days hunting gazelle, a few of which range on the wide stony steppe, or *sai* (Chinese), along the base of the mountains. We found these *jeron*, as the natives call them, very hard to hunt, for they were exceedingly wary and the nature of the ground made it nearly impossible to approach within range. We tried one drive, a method in great favor with the natives, but it was unproductive, and we did not repeat the effort. It was impossible for us to spend a long time hunting the gazelle, nor was a complete group of them necessary, for

the Museum already had a group of the Mongolian gazelle (*Gazella gutturosa*) for exhibition. The Mongolian race and the Yarkand gazelle which we were hunting, were so similar in appearance that a second group was unnecessary. We therefore continued our journey toward the mountains after a lucky shot had brought down a specimen for identification purposes. This animal, a buck, proved to have a pair of horns fifteen and a half inches long, rather longer than any obtained in recent years. Its height at the shoulder was twenty-seven inches and the teeth showed that the animal was quite old.

The gazelle of Kashgaria, the Yarkand gazelle (*Gazella subgutturosa yarkandensis*), is a subspecies of the Persian gazelle (*Gazella subgutturosa*), generally called the "goitered gazelle" from a swelling on the throat of the bucks during the breeding season. Our specimen had a noticeable lump of heavy gristle just over the larynx, though our field dissection did not determine whether or not it was connected with any gland. The known range of the Yarkand gazelle is given by Lydekker as "the plains of eastern Turkestan to Lob Nor and the borders of the Gobi Desert." In its summer pelage the Yarkand gazelle is a light fawn color, which shades into white in the underbody and legs. Dark face markings, which extend from the eyes to the muzzle, are more prominent and the white rump-patch is larger than in the Persian race of the goitered gazelle. The ears also are somewhat longer than those of the more western variety. In both races only the bucks have horns.

It is questionable whether the gazelle of the plains

near Jam rely greatly on scent as a warning of danger for the main trade route northward into the Thian Shan crosses their range, and though they keep at a distance, they seem to pay little attention to caravans.

But their sight is excellent and they are favored by the nature of the plain. Their coloration, too, makes them very hard to locate when they are not moving. Our first views of the animals were nearly always when they were running.

Once or twice we took long, running, broadside shots at a distant gazelle in hopes of making a lucky hit, but each time it seemed impossible sufficiently to lead the target. A rough calculation showed a rather interesting reason for our consistent misses. Estimating the range at three hundred yards (it was seldom possible to approach closer), taking the muzzle velocity of the bullet at twenty-seven hundred feet per second and guessing the animals' speed at thirty miles per hour (it was probably greater), we arrived at the following: 300 yards equals 900 feet, so the bullet would take $\frac{1}{3}$ second to reach the target. But at 30 miles per hour, or 44 feet per second, the target would have moved $14\frac{2}{3}$ feet in the $\frac{1}{3}$ second. The bullet's speed, however, would average somewhat less than 2700 for the 300 yards, so it would take slightly longer than $\frac{1}{3}$ second to arrive. We decided that a lead of fully 15 to 20 feet would be necessary, so it was no wonder that we made misses when leading the targets by a mere five feet!

After the short interval of jeron hunting, we crossed the plain into the foothills of the Thian Shan and made a halt of four days to hunt a variety of wild

sheep which was said to range there. The country around Tikan-karuk where we camped was composed of a soft material which had been eroded into fantastic buttes, buttresses and pinnacles—a Grand Canyon country with colorings suggestive of the Yellowstone. A wide plain, which sloped gently up to the mountains, extended far eastward of these bad lands, and the upper strata of many of the higher buttes were on a level with it. The strata, though bent and tilted sharply in places, were sedimentary and undoubtedly composed of wash from the mountains. The formation told the story. Movement of the mountain block had caused disturbances of the sedimentary deposits by tilting and faulting, and later erosion of the low scarps and ridges caused by the movement, had again smoothed out the surface. Continued sedimentation carried on the building-up process, while erosion had cut the numerous canyons and gullies through which we hunted.

The country was a complete desert, though there were evidences that at some seasons water flowed in the gullies. The travel was hair-raising, involving riding along foot-wide ridges where dislodged pebbles rolled hundreds of feet on both sides. We saw many old sheep tracks and had glimpses of one ram and four ewes. Two old heads in a village showed a rather tight curl, more like *Ovis ammon* than the wide spiral of *Ovis poli*.

Though it is impossible to state definitely, it is probable that the few sheep around Tikan-karuk are *Ovis karelini*. In the *Journal of Mammalogy*, August, 1925, Prof. Shruskin gives the known range of *Ovis karelini* as, "Trans-Ilian or Za-Iliskii Alatau;

upper Naryn (sources of Syr Daria) and around Issik Kul." Issik Kul is only about a hundred miles from Tikan-karuk and there are no great natural barriers between its vicinity and the area around Tikan-karuk, while between the range of Littledale's sheep on the upper Ili and the Yulduz, and that of the "unknown," rise tremendous summits which sheep would be most unlikely to cross. Natives told us that the animals came from the northwest and were plentiful in that direction, which tended to strengthen our deduction as to their identity.

Our caravan of thirty ponies was in charge of their owner, a fine-looking Turki from Khotan, who acted as caravan *bashi*, or leader. Four other men handled the ponies, and made a crew which was one of the best and cheeriest I have had anywhere. Their methods of caring for horses, however, were subject to criticism, for they seldom removed saddles until long after arrival at camp. The horses were tied in pairs, with each animal's head secured to his companion's saddle. Hours after camp was made we would see the poor animals moving about in circles, still burdened with their heavy pack-saddles. The Turkis said that keeping the saddles on until the horses cooled, prevented sore backs but it proved otherwise.

The Turki pack-saddle is a huge, cloth-covered, U-shaped frame, which extends forward over the withers and neck, and back over the rump of the pony. Heavy saddle-blankets are used and these cover the whole animal from neck to rump. The cinch is of hair rope and the packs are hung over the saddle by two more ropes, with a fourth simply tied

around packs and horse. A rope from the saddle and another from the load pass under the pony's tail and act as cruppers. With the absence of any useful hitch, packs constantly turn and shift and this is no doubt the chief cause of the sore backs seen on nearly all Turki pack-horses. Cinch-galls also are very common; in fact, it is unusual to see a horse without one.

Turkis give little care to their horses' feet. Flat, iron shoes are fitted, or rather nailed on with little fitting, but the hoofs are seldom pared down and grow to amazing lengths. We saw several horses whose hoofs had grown out so far to one side that the animals were club-footed. Nearly all our horses stumbled constantly.

At Kurghan, the southern approach to the Muzart Pass, is a Chinese boulder and mud fort, the wall of which stretches the full width of the valley. This fort is used as a Custom House and all traffic along the trail must pass through it, as the only possible route is by way of the gate and through the compound.

Beyond the fort a beautiful valley extends north toward the Muzart Pass. The floor of the valley is filled to a depth of fully a hundred feet by granite boulders, gravel and sand, and through this filling the Muzart River has cut a gorge. Though nowhere over fifty feet wide, the Muzart is subject to considerable rise in the afternoon and, owing to its rapid current, it is then dangerous. We crossed at one point by a very shaky pole bridge, which sloped to one side and gave badly under the weight of a horse. The first few horses of our caravan were led

safely across, but several stampeded down the trail leading to the bridge and dashed out on it at a hard trot, in spite of all efforts to stop them. The bridge swayed, creaked, and sagged, while bits of wood fell from it into the river. We watched fascinated, fully expecting the whole thing to go and take three loaded horses along. Had they gone into the river, there would have been little salvage, as it was deep, swift and boulder-strewn. It was touch and go for a few moments but fortunately the men stopped the stampede and the balance were carefully led across.

We arrived in the afternoon at a stream that came from a deep cleft in the mountains and though the gray torrent was not over thirty feet wide, it was deep and had a vicious current which roared unpleasantly over the big rocks. We prospected up and down and threw stones in to test the depth but the consensus of opinion was that to attempt to force a crossing that late in the day would, without question, result in a thorough wetting of kit and stores, if nothing worse. Morning sees these streams much reduced and usually quite fordable, so we made camp just below. The stream, in fact, went down fully two feet during the night, so that when we crossed in the morning, mounted men stationed just below the ford kept the pack animals from drifting downstream, in spite of the swift water. Differences in the volume of water in mountain streams are caused by the greater melting of snow in daytime than at night. We noticed variations of several feet in some rivers.

One day, as we were riding peacefully along a particularly rocky and steep bit of trail, I heard a

clatter behind me. A hurried look was all that was needed to tell me that the horse and rider coming up would require all the trail, for they were headed somewhere in a hurry. A Turki, one of those who were constantly attaching themselves to our caravan, had two live chickens tied by the feet and hanging, head downward, from the back of his saddle, one on either side. The birds apparently got fed up with their unpleasant position and both started flapping and squawking at once. The pony thereupon decided to leave and nearly succeeded.

For ten or twelve miles, from the intersection of a side valley at a point called Tughe-belche, a wide gravel flat extends nearly the full width of the Muzart Valley to Tamgha-tash, a ruined fort at the foot of the Muzart Glacier. At Tughe-belche begins a series of marble mountains which rise fully two thousand feet above the valley floor and extend as far over the pass as one can see from Tamgha-tash. There are many shades of pink, yellow, and brown, with tinges of pale blue here and there. The marble itself is pure white and of remarkably fine texture; weathering has brought the other colors, while frost has broken and chipped the mountains' tops and faces into pinnacles and buttresses of striking form.

Marble dust makes all the streams milky white, even more so than the usual glacial stream. We saw a number of small waterfalls, some of them of great height, which made a lovely picture in the wonderful setting of tremendous cliffs and lofty snow peaks. Khan Tengri, twenty-three thousand six hundred feet, the highest peak in the Thian Shan, is not far from the Muzart Pass.

The Muzart, 11,500 feet, though lower than many passes of Asia and much used by caravans between the Ili district north of the Thian Shan and Kashgaria to the south, is difficult because for several miles the trail leads over the broken surface of the Muzart Glacier.

Though the sky was almost entirely clear when we started, a heavy dark cloud soon came up the valley from the south and inside of an hour a cold, cutting wind was blowing at our backs, driving rain into every fold of our slickers and thoroughly chilling us. Our Kashmiris were thoroughly soaked, though I loaned my coat to one of them. He was quite wet by then, but it did keep out some wind. The Kashmiris are hardy, without doubt, for that boy had on no stockings and only his ordinary clothing.

For the first half mile, a vague trail led up the lateral moraine to the Muzart Glacier, which, near its snout, practically fills the valley. Like many of the glaciers in Asia, the surface of the Muzart is covered with *débris*, except where the pitch is very steep and ice-falls, with ridges and pinnacles, make it impossible for the covering of boulders to stick to the surface.

Leaving the lateral moraine, we followed a local guide out on the glacier, where the ponies struggled gamely among smooth round stones and slipped badly now and then when they stepped on solid ice.

Along the trail ahead was a caravan of donkeys and after a short time we came up behind them just at the top of a steep descent, where ice showed through the surface layers of small rocks. One of the donkeys, loaded with two large bales, slipped, slid



A GROUP OF TURKI MEN. THESE ARE REPRESENTATIVE INHABITANTS OF KASHGARIA.



A YARKAND GOITERED GAZELLE. THE MAN IS HASSAN BAT,
THE EXPEDITION'S KASHMIRI SHIKARI.

off the narrow trail and rolled over and over to the bottom. He came down on top of the bales but struggled free and seemed quite unhurt. We led our saddle-horses down without difficulty but had to keep moving, as they slid most of the way. When our caravan came along, several horses fell, one skidding clear around and sliding down backward.

After passing a huge rock cliff which piles up the ice in tremendous fantastic shapes, the trail winds among broken masses of ice and deep crevasses where dislodged pebbles tinkle down and down into dim blue depths. Five men are always on hand to keep the trail passable. These men are paid by travellers and food is furnished them by caravans.

At the foot of a winding ascent these chaps met us and guided our leader among the crevasses, where with short crude picks they hewed steps in the smooth glare-ice for the struggling ponies. It was all the animals could do to dig in their toes and scramble up. As they approached the steepest point, a particularly slippery bit brought down several. I ran to one horse which was down with its forelegs twisted under it. The animal made several gallant attempts to rise but each time fell back. I looked above for assistance in unloading the packs and saw two others down, while one came rolling over and over in my direction, but fortunately brought up before it struck me. At last a couple of men arrived from below and unpacked the first horse, which struggled to its feet, was repacked and went ahead uninjured except for a few bruises. The whole caravan came to a level stopping place at the top of the sharp rise without any casualties, though it seemed almost a

miracle. That not all are so lucky, however, is attested by the hundreds of skeletons of horses and mules that line the trail before reaching the glacier, as well as on its surface and along the route beyond. They are everywhere, singly and in groups of from two to eight or ten, pathetic evidences of the rigors of Asiatic travel. Almost all show broken legs or shoulders, though no doubt some die from sheer exhaustion.

After leaving the glacier, an easy ascent of about two hundred feet over grassy slopes brings one to a saddle, locally called the Ish-palak, where the going is level for about a mile. On either side of this narrow valley, which runs approximately north and south, great peaks tower, their summits deeply covered with snow and ice. From every *jilga* and gully, however small, comes a glacier, each with its piled up moraine of rocky débris. I have never seen so many glaciers in such a limited area.

After three or four miles among various moraines, a sharp descent brought us down to a grassy meadow surrounded by green hills. Wild flowers were there in a bewildering profusion of reds, yellows, purples, and blues. We noted daisies, blue asters, buttercups, yellow poppies, marigolds, and forget-me-nots; even the lowly dandelion added its bright bit of color. Altogether we counted over twenty varieties, and after the waste lands we had been travelling, they were a welcome sight.

Down the valley grass grew luxuriantly and the horses constantly loitered to snatch a mouthful. The first trees, our well-loved spruce, were found at about ninety-five hundred feet. There were only

small patches of them at first, but they gave promise of pleasant camps below. Low juniper bushes, which grew close to the ground in tangled mats, formed dark green blankets on many of the hillsides.

Another noticeable growth was an upright woody shrub, composed of clusters of stalks two or three feet high, with many long thorns and closely-growing leaves similar to those of the acacia family. We became well acquainted with these "devil's clubs," which the natives call *tōkh-hūl*, during our hunting on the slopes beyond the Muzart and later in the ibex country. Often, when climbing or descending steep, grassy hillsides, one would slip on loose rocks concealed by a thick mat of tangled grass, and feet would suddenly shoot out, bringing one down sprawling and reaching for the nearest handful of grass to arrest a bad skid. Quite often one's fingers convulsively closed on a *tōkh-hūl*. Needless to say, after firmly grasping one of these stalks, a halt was usually made while the sharp thorns were carefully, and with appropriate remarks, extracted from the grasper's palm. The thorns, we found, would penetrate even buckskin gloves. On one occasion I sat down rather violently on a *tōkh-hūl*, and thereby proved, to my own satisfaction at least, that a pair of heavy woollen trousers were but slight protection.

Along the trail we came upon two Turkis, calmly sleeping beside a poor horse, which lay in a pool of blood, the result of some accident. It was an unpleasant reminder that, even in this favored spot, Nature and circumstances are often leagued against an unfortunate individual, be it man or beast.

At Kain-ya-lak, a beautiful spot about five miles

below the Muzart Pass, we found a campsite in a grove of trees, and that night a blazing fire of spruce boughs made life a very pleasant thing. We stayed several days at Kain-ya-lak to hunt the *illik*, or Thian Shan roe-deer (*Capreolus pygargus tianshanicus*), which are found in the forests and bush-covered areas of much of the central Thian Shan region. These little animals are related to the roe-deer of other parts of Asia and of Europe, though the horns of the Thian Shan race are larger than any of the others. Fourteen to fifteen inches is an average measurement for *illik* horns, with usually three tines to each antler. When in velvet, *illik* horns, like those of other deer, are valued by the Chinese as ingredients in medicine, so they are annually hunted by natives.

In their summer coats *illik* are quite reddish with the under-body lighter and shading into white on the belly and legs. A peculiarity of the *illik* is the almost complete absence of any tail, a characteristic which the Thian Shan race shares with its cousins of other parts of Asia and of Europe. They are delicately built little animals. A full grown buck weighed ninety-eight pounds; a doe sixty-eight.

During our first evening at Kain-ya-lak we heard an excited barking in the forest not far from camp. One of our men said that probably an *illik* had seen our camp fire and was voicing his protest. We were a bit incredulous, as we had never heard of the habit and knew there were dogs in a neighboring native camp. The barks were short and sharp and much resembled those of a small dog, though they were rather more staccato. Later we actually saw

both buck and doe *illik* bark when excited or alarmed.

A usual native method of hunting *illik* is by driving. We, however, followed the somewhat more arduous but surer method of stalking animals located with the aid of glasses.

In common with other members of the deer family, *illik* come into the open to feed in early morning and towards evening, and at those times we tried to be at a point of vantage from which considerable areas of grassy hillsides could be watched. One morning I was out with Hassan Bat and a local man whom we had engaged as guide. As we laboriously worked our way upward through bushes and thick grass, two does bounded away, barking excitedly. We expected them to arouse any others that might be feeding near but it was not long before we located a buck about five hundred yards above. As we watched, another buck appeared and gradually fed downward toward the first. The second was seemingly the boss of the hillside, for the first fled at his approach. It seemed a long while before we were able to advance through the grass to within about a hundred and fifty yards, not a close range when it is considered that an *illik* stands but thirty inches at the shoulder. The buck proved to have a very fair head with horns measuring $14\frac{3}{4}$ inches in length.

On the way back to camp our local guide saw a small band of ibex so high on the rocks above us that I could barely make them out with my eight-power glasses. I remarked that the man's sight was wonderful and Hassan, who never lacked an answer, said, "These people always drinking mare's milk, sahib. Always having good eyes." My suggestion

that he also try some was quite lost on that worthy Kashmiri.

One morning's hunting took us through the depths of a thick forest of spruce and though no *illik* were seen there, the walk was gloriously beautiful. Little open glades, where grass grew luxuriantly and wild-flowers carpeted the ground, where birds were all about and bees were busy among the many-hued blossoms, made one wish to sit down and enjoy the whole quiet pleasant scene. The forest, too, with its deep shade where fern-like plants grew thickly and soft mossy banks alternated with beds of fallen spruce needles, had a great charm for one fresh from the barren wastes of the Pamirs and the desert *sais* of the plains.

Although conditions in the forest seemed ideal for ferns, both Clark and I noticed that none grew near Kain-ya-lak. There were plants with compound leaves, but they were not ferns. It is probable that the elevation, about nine thousand feet, was too high for ferns in that latitude.

All signs pointed to erosion having practically stopped on the lower slopes of the section near Kain-ya-lak, though on the peaks above, snow and glaciers were apparently continuing the tearing-down process. Big slides and moraines showed high on the mountains, with here and there a scar extending far down on the green slopes below. One scar, in particular, attracted our notice, for it had been made by a glacial torrent which had dug itself a deep channel, with banks of boulders and mud heaped up as though by human agencies. Aside from one or two such scars, however, the valley near Kain-ya-

lak had an "old" appearance, which contrasted with the raw, unfinished look of the surrounding glacial regions.

Many of the glaciers in the Thian Shan seemed to be "dying" glaciers; that is, their moraines showed that they were evidently receding and were not so large as they had been. One glacier near Kain-yalak had lateral moraines which were several hundred feet from its present sides.

From one point of vantage we could see it against a background of jagged mountains, the summits of which carried tremendous depths of snow and ice, from which many glaciers flowed down steep slopes. To the left the great ice fall of the glacier below us showed blue-white, its "waves" tumbling down in serrated ranks, split into fantastic shapes and deep crevasses, until the more gentle incline of the valley floor was reached. There, like a river that has passed over a fall, its waves became huge undulations, which looked from a distance like mere ripples on the surface of the ice mass beneath. Across the valley a large *débris*-covered glacier entered the main stream, crowding the white ice of the other toward the opposite bank, the two flowing side by side until the newcomer, its surface more protected from the sun's rays by the overlying layer of boulders, forced the originally larger glacier into a corner of the valley. There it melted away and disappeared entirely, the rock-covered one continuing to the valley's end.

Near the Muzart and around Kain-yalak there were several beautiful illustrations of the fact that what may be termed a "current" exists in moving glaciers. Ridges, or waves, on the surface of the

ice-rivers were markedly curved and showed that the movement was faster in the center than near the sides where pressure was less and friction greater.

We spent a couple of days hunting ibex among the peaks near Kain-ya-lak, but though we saw two herds with some fair heads, we shot none. The ibex hunting was done solely to give the areas where we had shot *illik* an opportunity to become a bit quieter.

Near our camp, a small *yurt* village was the home of several families of Kirghiz, who in appearance were much like the Kirghiz of the Pamirs, though the Mongol strain showed slightly more distinctly. Their *yurts* were similar to those we used in the Pamirs, except that roofs were higher and had a greater pitch, no doubt because the central Thian Shan is subject to greater rainfall. The door-frames, also, were slightly different from those of the *yurts* we had previously seen, in that they had small doors hinged to their sides and opening inward.

In front of each *yurt* a great eagle was tethered by the leg to a pile of earth. The birds closely resembled the golden eagles of North America and were used for falconing, we were told. Winter is the falconing season, and the eagles' prey usually consists of rabbits and other small animals, though on the Dzungarian plains they are said to bring down full grown gazelles.

One day I discovered an old native plow in some deep grass, but with that single exception there were no evidences that agriculture had ever been carried on in the valley. The principal wealth of the Kirghiz living there lay in their herds of cattle, horses,

donkeys, goats, and sheep. In summer, at least, they had an ideal spot for grazing. All of the cattle we saw there and elsewhere in Central Asia were straight-backed and lacked the hump of the zebu, the cattle of southern Asia. Domestic cattle in Central Asia therefore, would seem to have come originally from Europe.

The Kirghiz had horses but many of them preferred to ride bullocks though these beasts were far from agile and were slow travellers. Their saddles were curious wooden affairs, very high fore and aft, and were equipped with round wooden stirrups which looked most uncomfortable.

We noticed several long magazine rifles of Russian make among the Kirghiz. Each had been equipped with a hinged rest near the muzzle, an invariable addition to all fire-arms used by natives of Central Asia. The rifles were probably traded for in the bazaar at Kuldja, but the problem of ammunition must have been difficult.

During our days at Kain-ya-lak we were able to make an excellent collection of roe-deer. The series included bucks and does, with complete skeletons of each and much data in the form of notes and photographs.

When the time allotted for our stay at Kain-ya-lak had passed, we decided to push on to the Tekkes Valley and eastward to the ibex country, a journey of about two hundred miles. Our series of *illik* had not been completed by specimens of young animals, but we hoped that there might be chance for them in the forests bordering the Tekkes.

CHAPTER VI

AMONG THE "CELESTIAL MOUNTAINS"

ON July twenty-third, a day's march down the beautiful Kain-ya-lak Jilga brought us to Shut-ta, a small Chinese Military post on the edge of the wide Tekkes Valley.

Low, long buildings with sod roofs, arranged around a large square compound, comprise the Post, while across a wide street, several serais are the only other houses. When we were there the garrison consisted of but thirty men, though there were said to be a number on detached service at smaller posts along the Russian border, about eighteen miles to the northwest.

We were greeted and entertained by the *Darin*, the Commander of the Post, who proved a most pleasant and jovial host. He had received word of our coming from the *Taotai* at Kuldja—or Ili, as it is known in Chinese—and said he would be very glad to assist us in every possible way.

It had been suggested to us that a soldier, named Suffa, from the Shutta garrison, would be an excellent addition to our staff, as he had been assigned to other parties going to the ibex country of the Kok-su and knew the trails. The *Darin* readily agreed to send Suffa with us and assigned a Captain with three other

men as additional escort. The extra men seemed unnecessary but we accepted them as a courtesy not to be refused.

Beyond Shutta a well-worn trail led near the hills along the southern edge of the Tekkes Valley. Dense forests of spruce covered the northern slopes, though, the hillsides facing southward were without trees. This difference between northern and southern slopes is very marked in the Thian Shan and is probably due to less rapid evaporation of moisture on the more shaded northern hill-sides. Many of the forests along the edge of the Tekkes are almost impenetrable, for the trees grow so closely that their lower branches are frequently interwoven.

The Tekkes Valley, extending over a hundred miles east and west, takes its name from the Tekkes River, which rises among the mountains at the valley's western end and flows eastward along its wide floor. About eighty miles east of Shutta the Tekkes River is joined by the Kok-su, or Blue Water, which comes from the high country to eastward. A wide bend takes the combined rivers north out of the Tekkes Valley near its eastern end to a junction with the Kungez River. The Ili, as the river is known below the confluence, turns west and, after passing through the Ili District of Sin Kiang, enters Russian territory and finally empties into Lake Balkash. The City of Ili, better known by its Russian name, Kuldja, is located on the Ili River near the frontier and is one of the important trade centers of Chinese Turkestan.

Near Shutta, the Tekkes Valley is perhaps twenty miles across, but it widens, as one travels eastward,

to a width of about fifty miles between the ranges which mark its lateral boundaries. Toward the south, the lower hills support areas of dense forests and we caught glimpses of beautiful snowy peaks up the intersecting valleys. The ranges on the other side of the Tekkes, however, were brown and bare, though through glasses we could see evidences of forests on their northern slopes.

Along the trail we passed several pole racks used by the natives for drying wild hay, a thick growth of which covers large areas near the southern hills. Milk also is dried for winter use by the people of the Tekkes and we saw the work in progress at several native camps. The milk is first curdled, then heated and strained and finally dried into a sort of cheese-like substance. It is then broken up into small bits and spread on mats in the sun to dry still more. It doubtless keeps well in the dried state but does not look appetizing.

Throughout the Tekkes district the strength of the sun was very noticeable on clear days. Its fierceness was more striking when one realized that our latitude was then about 42° North, roughly that of New York and Chicago. In the lower altitudes the heat was great enough to soften the cement holding the lenses of a pair of field-glasses which were thoughtlessly left lying in the sun one day.

About sixteen miles east of Shutta we made camp in a lovely grove of willows by a little stream called the Aksu, a name which means "White Water," or "Rapid Water," in Turki. Aksu Jilga, a beautifully timbered valley which extends several miles back into the mountains, is good *illik* (roe-deer)



GLACIERS NEAR MUZART PASS, THIAN SHAN MOUNTAINS.



AMONG THE ICE MASSES OF THE MUZART GLACIER.

country and we added a fine buck to the collection while hunting there.

Camp at Aksu was near a *yurt* village of Torguts, a Mongol people whom we had first seen on our way to Shutta. The Torguts of the Thian Shan, whose principal habitat is now the Yulduz Valley and nearby districts, are part of an important division of the Mongol people who once lived in Dzungaria, north of the mountains. Late in the Seventeenth Century, during a stormy period of Dzungarian history, they fled to Russia and settled on the banks of the Volga. But within eighty years they returned to their native land at the invitation of the Chinese Emperor Chien-lung. The migration of the Torguts on their return journey of three thousand miles, in the dead of winter and harassed by many enemies, has been likened to the Exodus of the Israelites from Egypt and described as "the most extraordinary emigration of modern times." Those in Sin Kiang are now but the remnants of the once numerous Mongol tribe.

The name "Kalmuk," which is applied indiscriminately to the Torguts and all branches of western Mongol tribes, seems to have no specific meaning in itself. Some authorities claim it means "remnant," and refers to tribes who were left when the great Mongol flood receded; others say it is probably a corruption of the word *kalpak*, or "fur cap," which is used to designate all Mongol tribes. Our own inquiries developed that the Turkis of Sin Kiang give the name Kalmuk to all people whose religion is lamaism, be they Torguts, Mongols or Tibetans. As the Torguts were always called Kalmuks by our

men and are generally known by that name, I also will use it.

The Kalmuks are entirely pastoral and apparently agriculture does not enter into their scheme of activities. As might be expected, they are nomads and their felt-covered *yurts* are transported from place to place as seasons shift the most desirable pasturage. Besides large herds of cattle, sheep, and goats, the Kalmuks own great numbers of horses; Kalmuk horses from the Yulduz Valley and around Kara Shar are among the best in Central Asia, particularly for riding. They stand about fourteen hands high, and are noticeably larger than the Turki ponies and the horses of the Kirghiz. The Kalmuks ride whenever possible and will mount to go even a few hundred yards.

A Kalmuk man's dress is somewhat similar to the Turki's and includes a loose coat with a sash, worn over baggy trousers, soft leather boots and a queer tight-fitting hat with a short turned-up brim. In their sashes they carry a "fire-maker" and a combination knife and chop-stick holder, both of which are very similar to those used by Tibetans. Kalmuk men wear queues with sometimes a few strands of horsehair braided in to make the appendage more impressive.

A woman's costume is much the same as a man's, except that she ordinarily wears no head covering. We saw one girl, however, who was in some sort of ceremonial attire, the most striking part of which was a head-dress which looked like an inverted goblet with streamers depending from it. Brow-bands are worn by girls and women and frequently these have

ornaments hanging from them. We found it wise to keep as much as possible to windward of our Kalmuk neighbors at Aksu, for they were exceedingly dirty.

The making of felt was in progress at the *yurts* near our camp at Aksu, where several women were working piles of sheep's wool, beating and fluffing it with light rods. The motion was a downward blow of considerable force, followed by a lifting and drawing back of the stick, a graceful movement which reminded us of some of the motions made by the drummer in a jazz band. A crowd in a big *yurt* nearby was singing a rhythmical tune and keeping time to the music with their rods, making rather a party of the work. The wool is made light and fluffy by the beating and is then spread on mats of grass or straw, due care being taken to have the strands roughly parallel. It is then sprinkled plentifully with water from a skin bag, tightly rolled around a pole, and left to soak. Later, ropes are fastened to the pole-ends and the rolls are dragged about behind horses or bullocks. The rolling compacts the wool into the coarse felt used for *yurts*, floor coverings, boots, and blankets. The latter are the familiar *numdahs*, which are also made in many other parts of Turkestan. The best *numdahs* are said to come from Khotan.

Like Mongols and Tibetans, the Kalmuks are lamaists and acknowledge the "living Buddha" at Urga as the spiritual head of their church. Stone cairns with fluttering prayer-flags are familiar objects on hilltops throughout the country. Kalmuk prayer-flags usually have crudely printed pictures of gods and demons, rather than the written prayers

avored by Tibetans. Prayer-wheels, so widely used in Tibet, do not seem to be in vogue as a means of worship among the Kalmuks. These are the noticeable differences between the Mongolian and Tibetan forms of lamaism.

The trail beyond Aksu led for about three hours over slightly rolling country near the foot of the southern hills. At a little log village the Captain of our Chinese escort made signs and sounds indicative of tea drinking, so we stopped an hour for refreshments. The village was peopled by Kazaks, a race closely akin to the Kirghiz, and almost as widely scattered over Central Asia. We had seen Kazaks near Shutta—in fact three of our escort were Kazaks—but we had not had a previous opportunity to learn much about them. We found Kazaks in the Tekkes Valley, in the Kok-su district, and north of the mountains, and learned that they also live in parts of Russian territory. Those in the Tekkes region were agricultural to some extent and cultivated small fields of grain, but the Kazaks we met later were all pastoral people and owned large flocks and herds. Although they have a slight Mongol strain, many Kazaks are fair-haired, some even blue-eyed. We saw individuals who might have been Europeans except for a hardly noticeable elongation of the eyes. In a group of about twenty that we once met, one chap had a brown beard and his blue eyes showed almost no trace of the Mongolian. He might have been an Anglo-Saxon. Another, whose features were heavier but again with no Asiatic elements, looked like a much-tanned German; one was almost Mongolian in feature; still another, with black eyes and

hair and heavy black moustache, might have been a Greek. The Kazaks are Mohammedans, though not, so far as we could determine, a deeply religious people.

When a Kazak dies, if the deceased is the head of a family, the surviving members prepare a large feast, to which all the families for miles around are invited. After the banquet, horse races are held for prizes put up by the chief mourner. The first prize is a horse; the second, a cow; the third, a goat; and the fourth, a sheep. An affair of this kind had just been held at a Kazak village which we passed one day and we met fully fifty riders along the trail. On learning of the various prizes, Clark asked me whether the surviving spouse might not possibly go as a "booby-prize."

A favorite beverage among the Kazaks is *kumis* or fermented mare's milk. At one place we saw a great many horses picketed in long lines near a *yurt* and were told that it was a dairy from which mare's milk was distributed to neighboring camps. We heard that the Kazaks frequently got pleasantly inebriated on *kumis*, though from a single sample, we felt sure that the taste for it must be cultivated.

At the village where we stopped at the suggestion of our Chinese Captain, we were entertained at the house of a Kazak fur-trader, whose cabin showed many touches of the outside world, such as china dishes, an iron bedstead, a sewing machine, and evidences of the use of saws and planes in its construction. While we were drinking tea, a roe-deer fawn was brought in. It was a long legged little buck, very thin and not very strong, though even so,

it could jump and run amazingly well. As soon as it was put down it began to squeak; that is the only name I can give the sound. It was much the same noise that is made when a blade of grass is blown between the thumbs. After hearing the little fawn, we understood why our Kirghiz guide at Kain-ya-lak had tried to call *illik* by blowing grass. Our host, the fur-trader, gave us the baby *illik* when we left and we took it along, wrapped up in many folds of blankets. The ride proved too much for him, however, and he died in a few days.

Our camp that night was at the log village of Agias, situated near the mouth of a large valley of the same name. There we found two Russian refugee families, and were told that about thirty such families lived in the Tekkes. We were not surprised to find the Russians at Agias, for while we had been at Aksu, a young Russian lad had appeared at camp. He had come ostensibly to offer us an *illik* doe which he had shot for meat, though we thought his real reason was just to see two strangers of his own race. He was a handsome youth of about eighteen years, dressed in a faded and ragged Russian uniform, pieced out with bits of Kazak clothing. His clear eyes had a vague hint of sadness in their blue depths and his clean-cut face seemed unnaturally sad for a youngster. We learned that his family had lived for four years in the Tekkes, that his name was Pavyok Pelouznikof, and that his companions were mostly Kazak boys. One could not but feel sorry for the lad, for there seemed a poor future ahead for him, cut off as he was from contact with the outside world.

On our arrival at Agias, we were invited to one

of the Russian cabins, where tea and some excellent food were served us in a little felt-lined room. The samovar from which the tea was made was a beautiful brass affair and appeared to be one of the few things our hosts had been able to bring from Russia. The family consisted of father and mother, two grown daughters, a boy of about seventeen years, and three younger children, all of whom lived in two little cabins, with the overflow accommodated in a *yurt* or two nearby. A tame *illik* fawn was quite at home and followed the children about wherever they went.

Our *shikari*, Hassan Bat, thought he could speak Russian, so he volunteered to act as interpreter. He was no great success, however, for when he could not understand, he palpably made up answers which seemed satisfactory to him. I asked where the Russians had come from and Hassan at once answered, "From Russia, sahib." On another occasion, I asked Hassan where the milk we were using came from and he replied without hesitation, "From a cow, sahib." There were times when we would have gladly slain Hassan, though doubtless, like the well-known pavers of Hell, his intentions were good.

From whatever part of Russia the refugees had come, they had fled to a pleasant land, a "white-man's land," as the Tekkes Valley and neighboring *jilgas* can be truthfully described. As Clark remarked, "If they had to be exiled, they could have picked a worse place."

Almost all along the Tekkes River there is a continuous growth of willows and cottonwoods. During one or two marches we found grass fully five feet high and all one day, while travelling through this

grass, myriads of tiny flies drove our horses nearly wild by going up their noses. There was a continual tossing and shaking of heads and much vehement snorting. These little flies were smaller than the black flies of North America but fortunately did not bite. There was a big green-headed fly, however, which we had first met at Kain-ya-lak. This fellow had real jaws and his bite was something to be guarded against.

There were many small birds in the grass, little gray fellows who flew up ahead of our caravan and darted again into hiding. Some of them were meadow larks, though we could not recognize all the varieties. One day our *shikari* shot a hen pheasant; another day a large buff-colored owl flew up from near the trail. Magpies perched in the trees near the occasional villages, and *chikor*, or hill partridge, were plentiful everywhere. Large gray hares, even larger than the jack-rabbits of the western United States, were common, and there were burrows along the trail which nearly brought several of our pack-ponies to grief. One day, two big eagles on a hill-top watched our caravan pass and even followed it for a distance. They were tremendous birds with a great spread of wing, and at a distance, looked much like North American bald-eagles. On another day a large crane flew across our path, though too far away for us to identify its variety.

One afternoon we passed a large village of *yurts* scattered through the thinner parts of the timber for nearly a mile along the river. Many fine looking cattle were grazing on the flats near by and we saw horses here and there among the trees. We

passed a few fields of wheat but they only served to confirm the observation that Kazaks are but partly agricultural. The fields, irrigated by water from neighboring *jilgas*, looked as though they received little care, for there were many weeds among the grain. In the village there was a small teepee, similar in design to those of North American Indians, though the framework was of split logs instead of poles. The teepee was covered with felt mats, and ropes were wound around the outside to keep them in place. The top vent was drawn as tightly as possible with no apparent provision for the exit of smoke. It was a makeshift sort of teepee, but interesting in that it suggested the kinship between the people of Asia and the North American Indian.

The profusion of wild flowers had been left behind when we entered the Tekkes Valley, for there the summer's heat and diminished rainfall made conditions less favorable for their growth. Dandelions were everywhere, however, and there were great masses of red and white clover blossoms, such as we have in the United States.

At Kok-turuk, a small village of mud houses near the Tekkes River, we made a one-night camp and, as usual, had on-lookers to watch us eat, write, and work about our tents. At every camp where there was a village or a few *yurts* near, we had an audience, sometimes just one or two persons but more often a crowd. They would usually stay at a reasonable distance, though now and then bolder spirits would come right into our tents. Where there were Chinese about, they were a greater nuisance than the Turkis or Kazaks, for they seemed to feel perfectly

free to make themselves at home in our tents, pick up articles and examine them, and when we happened to be making notes, to peer closely at our fountain-pens and writing.

Our saddles, particularly the hooded stirrups, were a never-ending source of interest and amusement to everyone, and when riding through villages, stares, laughter, and animated conversation always accompanied our passing. We decided that they thought our stirrups were a new sort of boot, for when we dismounted near any group of people, they always seemed surprised when the stirrups remained part of the saddles.

About ten miles east of Kok-turuk our trail left the Tekkes Valley and turned up a narrow *jilga* to a rolling plain which extended southward toward the southern range. In a small canyon we crossed the swift torrent of the Kok-su River by a rather shaky pole bridge and though it was still early, camped just beyond, for our guides said that there would be no water or fuel for some distance. Ahead the country appeared higher and rougher and the peaks were much closer than they had been since entering the Tekkes Valley.

Behind our camp at Kok-su Bridge, or as the place was known locally, Jilga-jul, a trail ascended a steep little canyon to the ridge above. After gaining what at first seemed the top, we continued about twelve miles over rolling upland, now and then dipping slightly into shallow draws but always gaining altitude and with a still higher hill continually ahead of us. To our right the ground sloped away to where the Kok-su flowed in a narrow gorge-like valley.

Beyond rose the southern range of the Thian Shan, the nearer hills of which supported large but not continuous forests of conifers. Still further southward towered mountains whose rocky summits were capped with snow and whose high valleys contained many glaciers. Behind us lay the panorama of the Tekkes, a bewildering maze of eroded ridges and valleys of green, pink, and yellow, the river valley proper being lost to view in this vast area. The far mountains to the north were dimmed by a soft blue haze but showed clearly enough for us to discern a greenish tinge where grassy slopes led upward to rocky peaks. Here and there a fringe of trees could be seen along some ridge, indicating probable forests on the cooler northern faces. The whole valley, from mountain range to mountain range, was about fifty miles in width.

A long shallow depression eventually led us into a magnificent grassy basin called Kara-jun. Water from springs was present in limited quantities, and the place was one of the most perfect bits of grazing country I have ever seen. Many *yurts*, in groups of from two or three to eight or ten, attested the fact that the Kazaks appreciated the possibilities of the basin, and sleek herds of excellent cattle and horses dotted the hillsides. There must have been a funeral celebration at Kara-jun, for we met numbers of riders along the trail and several mounted groups were moving about the valley.

Kazaks and Kalmuks ride with saddles away up on the horses' withers, a peculiar position which may be responsible for the prevalence of sore-backed horses. The cinch is usually but a plaited leather

thong, often not over an inch wide. They ride with very short stirrups and as their saddles are small and high, balance plays an even greater part in their horsemanship than in western riding. They seem to dislike riding slowly and nearly always travel at a fast trot or a run.

Our Kok-su Bridge camp had been at an elevation of forty-five hundred feet. During the march we climbed to eighty-eight hundred feet near Kara-jun and then dropped about eight hundred feet to a lovely little *jilga* among tall spruces, which afforded a perfect campsite near a tiny murmuring stream. The height of the trees and their short branches gave them a slender, stately appearance which was most effective.

For two or three days all but one man of our Chinese escort had been conspicuous by their absence and we were told that they had been on a small foraging expedition among the Kazaks. One morning we heard that the packhorse of our remaining soldier had died. The soldier, however, did not seem to mind in the least but rode to the nearest village and returned leading another horse, which he had requisitioned from some unlucky Kazak.

After arrival at the camp near Kara-jun, our soldier again disappeared. He returned soon with another soldier of our escort, who brought a sheep across his saddle. As there was nothing unusual in their bringing a sheep to camp for food, we paid little attention to them. About half an hour later, however, a most irate Kazak woman and two frightened looking lads rode into camp. The woman shouted, and, I suppose, cursed everybody most thoroughly. I went



ROE-DEER COUNTRY NEAR KAIN-YA-LAK.



AN EXCELLENT SPECIMEN OF THIAN SHAN ROE-DEER.

out to see what the row was about and was able to gather that the soldiers had come to her *yurt* and had forced one of her men to contribute a sheep. Our men tried to say that she had been paid for it, then that she would be paid for it, but admitted that she had received nothing. When she first arrived, the two Chinese struck her horse with their whips and otherwise attempted to bluff her into leaving, but she only became more angry and noisy. At length, I entered the field of battle when everyone was talking loudly at once, with the lady's voice rising distinct and clear above the lesser male efforts. Getting two of our men to translate, I learned the proper price for a sheep, got out the money and tried to give it to her. But she would have none of it, though one of the youths with her at last took it. Then I explained to her that we white men did not countenance anything of that sort, that we had not known about her sheep, and that if in future anything of the kind occurred she should come at once to our camp and report it. She did not calm down much but, still talking, departed. Later, I called the two Chinese before me and gave orders that in every case, when anything was taken, it must be paid for. But they seemed grieved. What crimes the other soldiers had been committing in our name, Heaven only knows.

Near our next camp in Kwor-dai Jilga, we were met by a party of ten Kazak riders, who seemed quite high class chaps. They were well dressed, in their own style, and were well mounted on sturdy little ponies with much decorated saddles and stirrups. They pressed forward to shake hands and we thought

that their meeting us was a purely friendly gesture. They rode along with the caravan when we turned up the *jilga*, joking and laughing among themselves as though on a holiday.

Soon after the Kazaks joined us, we came to a stream which looked easy enough to cross but proved quite a task for the pack animals, as it was very swift and had big boulders and deep holes. One or two horses nearly went down but caught themselves, though two donkeys, which carried food for the caravan men, were not so lucky. Men dashed in on foot and dragged them out, everybody yelling and waving their arms from the side lines. The Kazaks entered into the spirit of the show and rode repeatedly across the stream leading horses, shouting, and generally having great fun.

Our Chinese escort had rejoined the caravan during the day and were with us when camp was made near several Kazak *yurts* in Kwor-dai Jilga. Our local guides had advised us to buy several sheep before going to the unpeopled district of Kargai Tash, so that fresh meat for the whole party could be carried "on the hoof." We had told our *shikari* to arrange with the Kazaks for fifteen sheep, for we expected to be several weeks hunting ibex in Kargai Tash and the Kok-su and ibex meat is not very palatable, as the ibex are goats.

While we were writing in our tents just before dinner, a great row started in camp. We hurried out to see what the trouble was and at first could make nothing of it. But it was soon plain that the Kazaks, of whom there must have been fully thirty or forty, were attacking our Chinese escort.

Several soldiers were the centers of knots of yelling men, who were striking and kicking them unmercifully, while two or three mounted Kazaks attempted to ride down the other Chinese. We began to wonder what the outcome would be, as the soldiers were outnumbered nearly ten to one, and we were not certain whether the sudden attack was directed against them only, or whether our whole party was included. The fact that no Kazak attempted to touch Clark or me was somewhat reassuring but about that time we saw a couple of swords flash and it looked as though bloodshed were inevitable. Clark pointed out two Kazak women who had somehow come into the mêlée and were then on the ground in the fighting, trampling mob. Angered, I ran over to get into the show myself and did succeed in separating one lot, though why some Kazak did not "dot" me one, I do not know. One of the women, both of whom were screaming at the tops of their voices, held up a bloody hand, while blood streamed from a cut on the other's arm. Things began to look serious, for the Kazaks were becoming wilder and wilder. One big six-foot-two-inch fellow on horseback went from group to group, yelling and striking, while several jumped on horses and dashed down the valley, presumably for reinforcements. From all appearances we were nicely in the center of a native uprising and due for a warm time.

At length, with two of our men, I started into the crowd to attempt the rôle of peacemaker. We accomplished nothing at all at first but finally the big chap on horseback and one or two others calmed down sufficiently to listen to Mohamed's rather

soothing voice. Each time, however, that one yelling knot quieted down a bit, the row started in another place and everybody would begin to shout all over again. We succeeded in getting the soldiers into the caravan men's tent, though most of them were so battered that they had to be led in.

We invited the big fellow and one or two others over to our own tent. One little chap who, earlier in the afternoon, had brought me a sheep as a present was so excited that each time I spoke to him, he dropped on his knees, took off his cap and pointed to the back of his head. I never learned whether someone had "beaned" him or whether it was his peculiar Kazak way of showing me that he was my slave or whatnot.

I asked the big man, whose name was Ali Beg, to tell me what had started the trouble. With many gestures and assisted at times by nearly all the Kazaks, he said that when the soldiers arrived, the captain had demanded fifteen sheep, but that he had refused to furnish more than four. Then, he said, the Captain had ordered him seized, tied, and beaten. Ali Beg declared that his people were willing to sell us sheep, and when I told him we were their friends and would take nothing without payment, he crossed his arms on his big chest and said "*Kosh*," which I gathered meant assent. Ali Beg added that the previous year the Captain and soldiers had taken several sheep and horses without paying for them. His resentment was evident and doubtless he thought that the advent of another party of white men would mean a similar unremunerative deal. Therefore we felt sure that the whole fracas had been premeditated and that the refusal of the

sheep, with the subsequent arrest of Ali Beg, were merely excuses for a planned attack. The several men who rode to camp with us had no doubt joined us to participate in the attack.

After the Kazaks had gone back to their *yurts* we questioned the Chinese Captain and heard his side of the story, which was simply that he had asked Ali Beg to sell us fifteen sheep and had received a flat refusal. Since the Kazaks raise sheep to sell and there were large herds on the hillsides, the Captain had been within his rights in ordering Ali Beg's arrest for his refusal. It was our duty, of course, to back up our escort, as they were following their orders in requisitioning supplies for us. Besides, we were technically guests of the Chinese and as such would naturally side with them. I therefore wrote a report of the affair to the *Darin* at Shutta and the Military Commander at Ili, also a statement of the fracas for the Kazaks at their request. They demanded that I write their letter in Turki, but by then I was a bit fed up with the lot and said they would take what I gave them or nothing.

We learned later that a detachment of soldiers from Shutta visited Kwor-dai sometime after our departure and arrested Ali Beg and the other leaders, who were all taken to Ili for trial and imprisonment. Before we left, the Kazaks offered to sell us the fifteen sheep, but at such outrageous prices that we refused to buy and purchased them later from a wealthy Kazak in another valley. That chap had heard of the trouble at Kwor-dai and at once sent a man to apologize for the behavior of his fellow tribesmen and to offer us as many sheep as we desired.

As we went higher up Kwor-dai Valley we noticed that the timber-line, which had been about twelve thousand feet in the Himalaya, had dropped to ninety-five hundred feet in the more northern latitude of the Thian Shan. Grass and flowers, however, continued to the eleven thousand foot level and we began to see again many of the varieties of wild flowers that had been so beautiful around Kain-ya-lak. These were no doubt alpine varieties which grow only at comparatively high elevations, which accounted for their absence in the lower and warmer Tekkes Valley.

An ascent of Kwor-dai Pass (11,700 feet) at the head of the *jilga*, brought us over into another and wider valley, where camp was made in a driving hail-storm at a spot known locally as Jug-a-lung, or "The Meadow." We were now approaching the home of ibex, for which we had made our way to this distant, rugged land.

CHAPTER VII

THE LAND OF THE TREES OF STONE

THE organization of our party began to take on a rather international appearance. By the time we reached Jug-a-lung there were six different types represented among our cosmopolitan throng. Our Kashmiris, who were of Aryan stock, Mohamed Rahim, an Argon-Ladakhi who was partly Aryan with a strain of Tibetan blood, the Turki caravan men, who were of Aryan stock with probably a slight mixture of Mongol blood, the soldiers, some of whom were Chinese and some Kazaks, and lastly Clark and I, made up a heterogeneous collection. Later we added still another type in the person of a Kalmuk, whom we engaged as local guide. It was an interesting fact that there seemed little friction between the various members of our party.

We had heard of two local *shikaris* who were said to know the ibex country in every detail, and from Shutta we sent a messenger to locate these men. One day as Clark and I were riding slowly along the trail, becoming hotter and hotter in the remarkably powerful sun, shouts from behind caused us to stop. A rider was galloping after us and frantically waving arms and cap. We hurried back expecting at least to hear that several horses or men of the caravan

were dead or dying. The rider proved to be Noorpay, one of the local *shikaris*. He dismounted and shook hands with us, using both hands to stroke his beard after the handshake. The beardstroking ceremony, the usual accompaniment of a Turki greeting, we had endeavored to learn, but found it difficult until our beards became longer.

We accompanied Noorpay back to the caravan and there found the other of the two Kazak *shikaris*. This second one, Tulabai, was a bent-over little chap who was said to be an excellent man. We did not realize until we reached camp that night how funny Tulabai was. A perfect Irishman in the face, with shrewd eyes and a scraggly growth of beard, his main comedy assets were his build and his trousers. He was short, stocky, stoop-shouldered, and amazingly bow-legged, so much so that he waddled. This gait, however, may have been partly caused by his quilted leather trousers which were bowed and bagged at the knees and had enough extra material in the seat to make a shirt at least. First we compared the rear view of Tulabai to that of an elephant, but later decided that an elephant's trousers fit rather better than did Tulabai's. In walking, he gave the impression of continually stalking some animal, for his normal gait was a crouching shuffle. Several times when out with Tulabai we found ourselves assuming that he had sighted game and was attempting to conceal his advance, when in reality he was only walking in his normal posture. The old fellow was remarkably spry, however, for all his funny looks.

Noorpay stayed with us but a few days. One

morning we noticed that he had gone and inquired where he was. We were told that he had gone to his home because one of his family was sick and that he would return in a few days. He did not come, however, and we finally decided that he and Tulabai had arranged to divide themselves between our party and another which we heard was some distance behind us.

Tulabai proved to be a rather poor hunter. His principal value lay in the fact that he knew the trails about the district. In common with most native *shikaris* who have had little training at the hands of experienced hunters, Tulabai was unable to judge the size of ibex heads. To him every large male carried a fine pair of horns. His greatest asset to our party was as a comedian. No matter how hard the work, Tulabai rarely failed to bring a smile to our faces, although it was unintentional on his part. His little bow-legged, bent-over figure with its continual suggestion of creeping toward an unsuspecting animal, would sometimes make us laugh when the long day had taken much of the humor from the situation. Wherever it was possible to ride, Tulabai rode. The little fellow would put his dejected-looking horse down places which seemed pure folly. Almost no hillside was too steep for Tulabai to ride, and though we expected many times to see him fall, he never did.

Our first objective after leaving the Tekkes was a region known to the natives as "Kargai Tash" or "Trees of Stone." The name, which is loosely given to a considerable area, is more properly applied to a peculiar rock formation on a mountain. When we

first sighted Kargai Tash mountain from a distance, it looked like a mountain covered with scattered areas of forests. The illusion was so strong that it was not until we looked closely with field glasses that we realized that the trees were not trees at all but were eroded rocks which extended along the summit and down the ridges. During the time that we were camped near Kargai Tash and were hunting among the nearby hills, we had an excellent opportunity to examine the formation.

The rock was a conglomerate of small rounded pebbles, held by a binder of yellowish sandstone, which was soft and friable. There were many strata of this conglomerate, which were separated by thin strata of harder, denser rock. These harder layers, which were largely eroded and broken away where the elements had reached them, had, however, left slabs of varying sizes that acted as a protection to columns of conglomerate below. Where fissures or breaks in the harder strata had allowed erosion to take place, the soft conglomerate had disintegrated until deep gullies had formed. Ridges were almost invariably crowned by thin wedge-like masses of the conglomerate, their tops protected by flat bits of the harder rock, which appeared to be a sort of limestone. Wind erosion, aided perhaps by driving rains, had undercut many of the projecting forms, until weird and fantastic shapes were everywhere. Holes had been eroded through some of the larger masses; some were cut into galleries and terraces, others looked like the handiwork of a master sculptor in a mood of riotous imagination. There were natural bridges, spires, pinnacles, towers, cathedrals with arched roofs

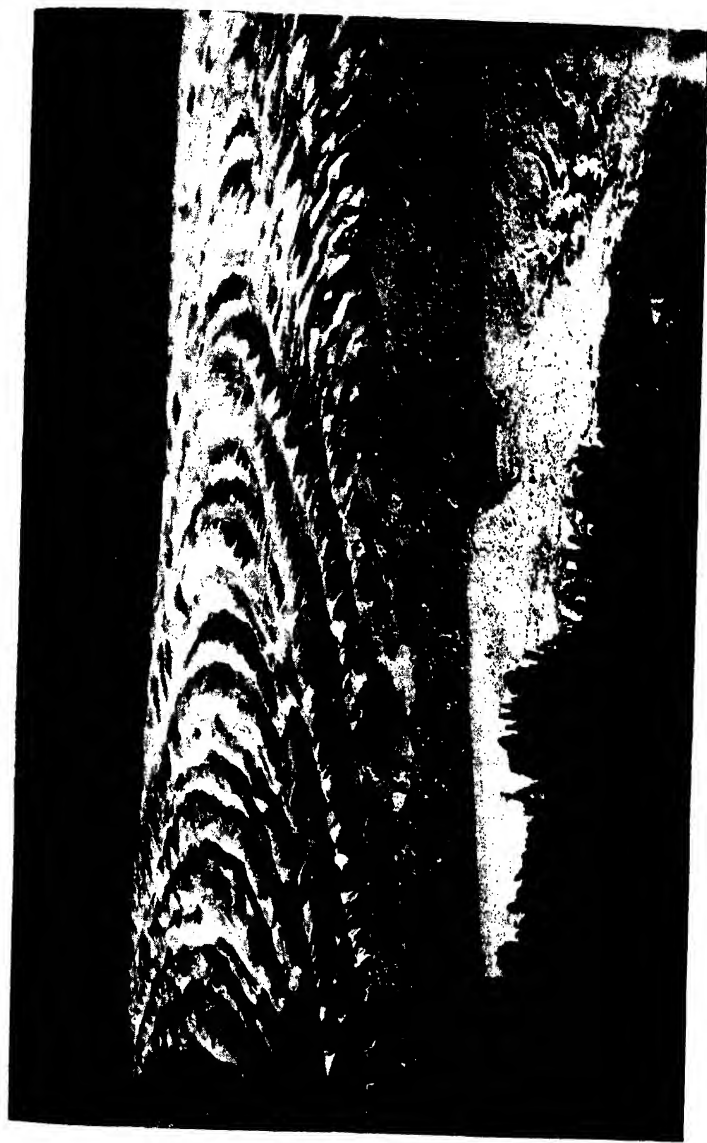
and buttressed walls, battlemented ramparts with turrets and watch towers; in fact, almost every conceivable fantastic shape. Where the protecting rock had disappeared, erosion was proceeding rapidly, and the sharpness of the top was gone. That there were a number of the limestone strata was shown by the varying elevations of the projections, some of which were on the very summit, others at varying levels for several hundred feet. The pebbles composing the conglomerate were of many kinds, with limestones and other sedimentary rocks predominating.

Although the wild sheep which we had hoped to find in that section were said by the natives to range there at certain seasons, we found them almost nonexistent during the few days we were able to give to hunting them. We were told that these sheep were also found in the mountains bordering the Yulduz Valley, so as our route out from the Thian Shan would lie down the Yulduz, we decided not to waste valuable time looking for them around Kargai Tash. It had been said that the sheep in the neighborhood of Kargai Tash were *Ovis karelini*, but as the known range of these is several hundred miles to the westward, we thought it more probable that they were *Ovis littledalei*. Subsequently we obtained a specimen of the Yulduz Valley sheep, which we believe is really an *Ovis littledalei* and not an *Ovis karelini*. As the range is continuous between Kargai Tash and the Yulduz, we think it most probable that the sheep in the two localities are the same. Further study of our specimen will, we hope, demonstrate this positively.

Just before moving to the Kok-su River we spent a day looking for ibex among the mountains between Kargai Tash and the Kok-su. Once up among the higher peaks a large band of ibex females and young was discovered some distance down a small valley. Before we could take cover and approach, they saw us and mounted to a ridge. As soon as they had walked over the sky line and disappeared, we climbed to the ridge, though with little hope of seeing them again. We were pleasantly surprised, however, to find several lying on a ledge not over two hundred yards below the top.

When we first looked over the ridge it was interesting to note that, though the ibex had seen us in the valley some time before, they had not gone far. While we were looking them over one old "nanny" turned her head and stared directly at us. It seemed strange that none of the animals showed any signs of fear, but it illustrated the fact that ibex, in common with other mountain animals, seldom look for danger from above. It was an easy task to reach a vantage point among some sharp rocks just above the animals and we were able to collect two females and two young as a start on our ibex series.

In the *jilgas* leading from the Kok-su Valley into the mountains, there were considerable areas which supported a low growth of juniper bushes. Along the stream beds near the bottom of the *jilgas* were willows and another low bush with reddish stems and small leaves. There were also great quantities of *tōkh-hūl*, the thorny plant which we had seen near Kain-ya-lak and had named "devil's club." Here, however, it seldom attained a height of over two



SHOWING MORE RAPID MOVEMENT OF GLACIAL ICE IN CENTER THAN AT SIDES,
THIAN SHAN MOUNTAINS, CHINESE TURKESTAN.



A GROUP OF KALMUK WOMEN MAKING FELT.

feet. There were a few wild flowers, though not in the quantities we had seen at Kain-ya-lak. The sides of the Kok-su Valley and intersecting *jilgas* were forested with spruce, but these areas ended near the head of the Kok-su as the elevation became greater. Timberline seemed to be about ninety-five hundred feet.

Now and then we saw *illik* (roe deer) or heard them bark on the hillsides above us. They were very wild and dashed away on sight, although we were usually some distance from them. We noticed a number of places where wild pigs had been rooting, and sometimes large patches had been disturbed by them. Once, just at dusk, we caught sight of four on a distant hilltop. Bears, too, seemed fairly common, although we, ourselves, actually saw none. Twice we were told by our pony-men that they had seen bears when going out at dusk to look after the horses, and in many sections were excavations where bears had been digging for marmots. Once we saw a large trench, which a bear had dug for some distance along the course of a marmot burrow. All the diggings were very similar to those of the North American grizzly.

We had some excellent opportunities to study ibex during the time we spent in the Kok-su. The Asiatic ibex (*Capra sibirica*) is well distributed among the Himalaya, the Karakoram, through the Pamirs, and into the Thian Shan and the Altai, though different races are represented in this wide area.

The typical race of the Asiatic ibex (*Capra sibirica sibirica*) is stated by Dr. von Liburnau to be from

the northern slope of the Sayansk Range, westward of Lake Baikal. Other races are found in the Himalaya of Baltistan and Ladakh, in the Altai Mountains, in the Pamirs, in northern Mongolia and southern Siberia, and in the Thian Shan. The ibex of the Central Thian Shan has been given the name of *Capra sibirica merzbacheri*, and there is another race of Thian Shan ibex further westward which has been named *Capra sibirica almasyi*. In other words, the ibex is one of the most widely distributed of Asiatic animals. So numerous are the apparent races that there is some disagreement among scientists as to their scientific names and habitats, and even as to which should be considered typical.

The general color of the upper part of the ibex is brown, with a darker brown streak down the middle of the back. The fronts of the legs are dark brown, while the lower parts and the inner surfaces of the legs are white. The under part of the animal is whitish.

Ibex rely to a great extent on their senses of sight and hearing, while their sense of smell is equally developed. In common with other mountain animals, they more often look for danger from below than from above. The favorite resting place during the middle part of the day is high up among the cliffs, though on several occasions we saw ibex lying-up on jutting ledges with rocks behind them which afforded excellent opportunities for stalking. Invariably when a band was resting or feeding, one or more animals acted as sentinels and remained on guard in a commanding position while the rest of

the herd paid little attention to their surroundings. When the animals were lying down, the great horns were often rested against rocks with their owners' head stretched forward on the ground. In other cases the animals lay on their sides with the weight of the heavy horns taken from their necks by adjacent rocks. Probably due to the fact that the ibex of the Kok-su are constantly disturbed by native hunters, the animals we saw exhibited almost no curiosity. When alarmed they never hesitated before dashing away in full flight. Like other members of the goat family they are hard to kill, and we once had to chase a badly wounded animal for a considerable distance over very difficult country.

The Thian Shan ibex range throughout the Central Thian Shan region and are said to be found also in the Siberian Altai. Their coat is a rather uniform brown, though lighter on the under-body and the back portion of the legs. Underneath the coarser hairs of the coat is a fine *pushm*, or underfur, which forms an excellent protection against cold weather. When the animals are shedding in mid-summer this undercoat is visible at the surface. From the chin of the ibex grows a long, pointed beard, which, in the case of old "billies" sometimes attains a length of nearly two feet.

The great scimiter-shaped horns are very striking. Roughly triangular in cross section, the front surface is squared at both angles and carries large massive knobs which make the horns look even heavier than they really are. The horns of the Thian Shan race average longer than any of the others. I believe that the largest known head, which is said to

have measured 67 inches around the curl, is one which was found by Kermit Roosevelt in the Thian Shan in 1925. The horns of the females are much smaller and seldom exceed about twenty inches in length.

The ibex are much more stockily built than are wild sheep, and measure about forty-two inches at the withers. They are heavy in the body and their powerful shoulders are admirably adapted to the rough country which forms their home. The legs seem rather clumsily-built, but this impression is dissipated when one watches a band of ibex crossing seemingly impassable places at full speed. On one occasion, while we were lying on a ridge watching a band of ibex in a valley far below, we became aware of a herd of females and young which had approached us from the other side. They could not see us where we lay among the rocks, so we remained quietly observing their movements. The animals walked slowly upwards until among some broken rocks about fifty yards to our right. An eddy of wind must have carried our scent to them, for with shrill alarm whistles from two or three members of the band, the whole herd dashed upward in panic-stricken flight. For the next few seconds the cliffs and rocks were simply alive with ibex and we were fascinated witnesses of the most spectacular exhibition of animal sagacity and agility that either of us had ever seen. Many of the herd kept to the broken, jagged rocks above, but six or eight dashed across an almost vertical cliff-face, turned a sharp corner at full speed and ran down across another cliff. I later examined these cliffs from several positions and on none

could I see how it was possible for an animal to find a foot-hold, let alone at a run. But those ibex, some of which were but young kids, did not hesitate. They made flying leaps of fully ten feet, landed on tiny ledges and without pausing to look ahead, made other leaps across deep crevasses. One little fellow ran full-tilt at a gap and sprang across, only to find that the animal in front had suddenly stopped. How he kept from falling we could not see. Rocks rolled down with an almost continuous roar and we fully expected several of the animals to come tumbling from the cliff. None fell, however, and soon Clark and I were staring breathlessly at a vacant mountain side and congratulating each other on having witnessed a most remarkable spectacle.

Several of the ibex we collected were found to have broken legs. The breaks were always old and had healed, but their presence indicated that accidents must sometimes occur when the animals are dashing about among the rocks. But, although on several occasions we witnessed bands of ibex in full flight, we never saw a single false step. They were amazing in their sure-footedness.

During our ibex hunting we occasionally had time for other interests, of which the majestic scenery was not the least. While lying out high on the rocks we sometimes had glorious views of the fine peaks of the Karlik Tagh, the rocky snow-capped southern range of the Thian Shan. In sunset lights, the summits took on lovely rosy tints and when seen through the blue evening haze the effect was delicate and very beautiful. From the heights across the Kok-su Valley a group of peaks of the Karlik Tagh

reminded one of the knuckles of a giant clenched hand, with the fingers indicated by great ridges which extended down to the Kok-su Valley. All of the peaks were jagged and sharp-topped.

The trail down the Kok-su followed the north bank, which was less abrupt than the other. Even so, when travelling from one hunting-camp to another, we followed ten-inch wide paths worn into the steep hillsides. The north bank of the river, except in deep gullies where sunlight came but little, was devoid of trees and bushes, while the opposite side, which faced north, was heavily forested. We had noticed this difference on the hillsides along the Tekkes Valley and here it was even more marked.

At Kargai Tash we had heard that several native hunters were in the Kok-su district. These men, we were told, went there to hunt marmots, though they also shot numbers of ibex for meat. The hunters were said to be Kalmuks from the Yulduz Valley and just before we left Kargai Tash for the Kok-su, one of them came to our camp. He claimed to know the district thoroughly, so we persuaded him to go along with us as guide. This chap showed us how the marmot hunting was done.

He was armed with an old Russian breech-loading rifle, which he had equipped with the usual pronged muzzle-rest. Each time he approached the brow of a hill he twirled a white rag in front of him. It seemed that the rapidly moving object attracted the attention and curiosity of any marmot that saw it and caused the foolish little fellow to sit up and whistle. Sometimes our Kalmuk was able to crawl

to within forty or fifty yards of marmots by this ruse. He was very comical as he crawled along, twirling the rag and dragging his gun. The latter looked much like a hay-fork, with its long prongs on each side of the barrel projecting over a foot beyond the muzzle. We watched him fire several times and noticed that there was nearly as large a puff of smoke at the breech as at the proper end. The weapon did not sound very wicked, though we saw him kill a couple of marmots at ranges of about fifty yards.

When we first heard that there were Kalmuk marmot-hunters in the district our Chinese escort immediately said that they would drive them out. We rather questioned their right to do so, but it seemed the best policy to let them arrange matters in their own way. After we had been in the region a few days, one of our soldiers brought a number of the Kalmuks into camp. They were a wild-looking lot, dressed in a jumble of nondescript garments. Some wore queues, others had short hair. One chap wore an old European felt hat tied on his head with a scarf, and was smoking a little Chinese pipe with a jade mouth-piece. They seemed a friendly enough lot and when we asked them to move their hunting grounds, they readily agreed to do so. But the damage was done, for the ibex were very wild and alert in that section.

We found that the game in the Kok-su district was annually disturbed by other native hunters as well, who come to shoot stags when the horns are in the velvet and immature. The antlers of the Thian Shan stag, like those of all the deer family, are used when in velvet by the Chinese for medicinal ingred-

ients, and numbers of them are annually brought into the bazaars of the cities of Sin Kiang.

One morning three of these native *shikaris* came past our camp. They had a great many marmot skins and several stag heads, all of the latter in the velvet.

Of the three stag hunters who passed our camp in the Kok-su, two had ancient breech-loading, single shot, Russian rifles, similar to the one carried by our Kalmuk. The third had an amazing homemade muzzle-loader with a five-foot barrel. This fearful and wonderful weapon used some sort of percussion caps, evidently rather crude ones, judging from the way they smoked up the breech. The stock, which seemed to have been whittled out by hand, was attached to the barrel by thin straps of metal. The guns of all three were fitted with the usual forked rests. After I tried putting one of the weapons to my shoulder, I decided that the rests were necessary, for the thing was so muzzle-heavy with all that pipe out in front that no one could possibly hit anything with it without some sort of support.

The Kok-su Valley was a glorious country. The lower slopes of the mountains on the south side were forested with pine and spruce, while above these, great granite peaks stretched upward. Looking from a distance at the mountains along the southern side of the Kok-su Valley, we could see that it was a most magnificently broken range. Deep valleys extended far back among the high summits and it was up these that the best ibex ranged. Hundreds of glaciers of all sizes could be seen among the higher fastnesses to the southward, and jagged pinnacles

of rock rose in bold outlines from among the gleaming white surfaces.

We saw numbers of snow leopard tracks and one of our men claimed to have seen one. They seemed plentiful enough, but as the snow leopard (*Felis uncia*) seldom moves abroad except at night, it was not surprising that we did not see them in daylight. We were told that some years ago snow leopards were plentiful in the Thian Shan, but that during several years their skins were so valuable for furs that they were regularly trapped by the natives to sell in the bazaars of Kuldja and other towns of Sin Kiang. A few wolf tracks were seen at different times, but not in great numbers. Once I heard a wolf howl, but it was far away and indistinct. In the higher parts of the Kok-su district the country was too broken to be a good hunting ground for wolves, which would find great difficulty in following the ibex among the crags.

While the Kok-su district is a most gloriously beautiful region in summer time it is subject to frequent rain- and snow-storms, particularly in the higher valleys. Almost every day during our stay we had one or more storms. When the sun was out, however, the air was beautifully clear and bracing. But there was an attendant annoyance in sunny weather which at times nearly drove us mad. This was caused by myriads of large green-headed horse-flies which buzzed about us even on the mountain tops. It was very noticeable, however, that these flies were only present when the sun shone. Just as soon as the sun had faded, they lost all activity and could barely move. But immediately the sun

came from under a cloud, swarms of them were again in evidence.

I examined several of these flies, which were not difficult to kill. The beak was enclosed in a sheath which parted to allow the projection of the nipper. Immediately they alighted, they unsheathed their beaks and started to work. The noticeable iridescent green of the fly's head was caused by two large eyes which occupied the whole top of the head. They were very persistent and were a source of constant annoyance to us when we were climbing or observing game.

As we moved from Kargai Tash into the Kok-su and for the first time had a view of the river in its deep narrow valley, we were struck by the blueness of the water. This, we learned, was the reason for the name "Kok-su," which means "blue water" in Turki.

Our first camp in the Kok-su was at the mouth of a large intersecting valley, and up this we hunted for a day or two. We saw numbers of ibex there but none, on closer examination, proved to be the specimens we desired for the collection. We moved camp to different valleys up and down the Kok-su and from every camp saw numbers of ibex. Few of them, however, were what we wanted. At several places we found that native hunters had been there just before us and the ibex were invariably seen high up on the mountains.

One day, from a high point, we were watching a band of ibex some distance below us. They worked slowly downward and started across a valley. While we watched them they again crossed to our side and

started upward. Their actions, when they descended into the valley, showed caution. First one or two wandered slowly downward, feeding as they went. They were leisurely followed by a few others while the larger number above seemed to pay little attention to them, though occasionally they would raise their heads and gaze fixedly toward their leaders. Suddenly the whole band dashed downhill as though seized with panic. They crossed rocky slides and precipitous broken places at full speed, and did not stop until they were some distance up the other side. These panics seem quite common among ibex. I have seen sheep exhibit similar inexplicable seizures, though ibex seem more prone to them than other mountain animals.

Ibex hunting entails much hard work. It is necessary to start from camp long before dawn in order to reach a point of vantage high up on the mountains before the animals climb among the rocks for their mid-day siesta. Just before evening they seek lower levels to feed on the grassy slopes and quite often they remain there during the night. Not long after sun-rise, however, they walk up among the rocks and lie out during the day in positions which are almost impossible to approach. These mid-day resting places are invariably points from which wide views of the surrounding country may be had and always some of the younger animals of a herd act as sentinels, while the older members of the band rest their big heads against the rocks and sleep. On several occasions we saw ibex silhouetted against the sky on the very tops of seemingly inaccessible crags.

One day we were examining a large band of ibex

across a valley, and though they were too far away for it to be possible to more than look them over that day, we spent some time in watching their movements. Suddenly several ibex were discovered on the other side of our ridge, not over a half mile from us. One or two of these carried horns which, though they did not look exceptionally large, seemed interesting enough to warrant closer inspection. It was not a long nor a particularly difficult traverse of the steep slope to arrive at a jutting outcrop above where the animals had been located, and an easy crawl took us down to a point directly above them. From there we were able leisurely to examine the herd. The horns of one animal, which was lying below the rest, we judged at about forty-five to forty-six inches, while the others did not seem so large. It was a down-hill shot at about one hundred and fifty yards. Clark and I fired together and were astonished to see the whole herd leap up and dash across the rocky slide. Apparently neither of us had scored, but it was soon evident that two of the animals were badly hit. They lay down after a short time and we were able to approach them closely. When we examined the horns of the one I had shot they seemed not particularly large, so we were greatly surprised to find that the tape read an even fifty-one inches. I had been estimating the heads we had seen by mentally comparing them to the heads of the Baltistan ibex which I had hunted in previous years. But it seemed that the heads of the Thian Shan ibex were deceptive, for their horns swept backward in a wider curl than those with which I had been familiar.



TULABAI, THE COMICAL KAZAK HUNTER WHO WAS HIRED BY THE EXPEDITION AS A GUIDE



A VIEW OF KARGAI TASH—THE MOUNTAIN OF "THE TREES OF STONE."

What appear to be trees are the strangely weathered rocks that give the mountain its name.

On another occasion we located a band of six ibex in the evening. When we saw them they were high on a mountain side, but as one or two looked large from that distance, we waited patiently among the rocks until they came down on a grassy patch to feed. It was then so late in the afternoon that there was no possibility of making a circuit to arrive near them before darkness would shut down. We were fully ten miles from camp, so that night we lay out in a narrow canyon below where the ibex had been last seen. Three o'clock in the morning saw us working our way up a ridge which we hoped would bring us out above the band. The climb took longer than we expected, however, and as we neared our objective, we saw the animals climbing upward just above us. There was no opportunity to stop to judge them but we picked out, as best we could, the one which seemed the largest. This fellow had horns which flared noticeably outward and were very impressive in their wide sweeping curl. Their length was disappointing, for they measured but fifty-one inches, but in appearance they were larger than any we had seen.

We continued hunting at various points up and down the Kok-su Valley, always looking for large heads, but in the meantime collecting a very complete series of ibex. Our series included adult males, females, yearlings, two-year-olds, and young kids. We took complete measurements in every case and in several instances kept the complete skeletons for the Museum's scientific collection. We were not lucky enough to find any exceptionally large males, but as the specimens were intended for Museum pur-

poses, and some of the unusually complete series we got were fully up to the average of horn length, we felt that our work in the Kok-su had not been in vain.

One day we caught a small snake along the trail and saw another in the grass. The snake was grayish brown and was about twenty inches long. It had small fangs and looked like one of the vipers. We were told that snakes were common in the bush and forest country further down the Kok-su Valley, but those two were the only ones we actually came across during the whole of our travels in Central Asia.

Ram chikor or snow cocks, were very plentiful. Often, as we were lying above bands of ibex, these big birds would sail through the air clucking wildly. At first we expected that the birds would alarm the ibex, but the latter seldom paid much attention to them, especially if they saw the birds begin their flights. The *ram chikor* were apparently unable to fly uphill, though their gliding abilities were remarkable.

Marmots were common all over the district. We noticed that they were less red than the ones we had seen in the Pamirs, though this may have been a difference between summer and winter coats. The alarm whistles of these ever-present animals seemed not to startle the ibex, though the latter were usually very wild and fled at once if one of them happened to note anything unusual among the rocks. Their nervousness was doubtless caused by the almost continual hunting of the native *shikaris*.

Ordinarily, in remote districts where mountain game is not much hunted, animals show a certain

amount of curiosity and will frequently look at one fixedly for some time. Sudden movements, of course, will startle them, but where the hunter remains quiet, it often happens that the first intent gaze is not followed by flight. Kok-su ibex, however, were noticeably nervous, a fact which did not lessen the labor of hunting them.

During the time we spent in the Kok-su district we saw many small birds. One was an alert little gray fellow and there were other equally alert brown ones. Both of these seemed to live in the grass and when disturbed, flew for a short distance and quickly dived again into concealment. There were also many black birds that were smaller than crows and had a higher-pitched cry. Small brown hawks were fairly common, and there were many large birds, though whether they were eagles or vultures we could not determine. On one occasion we shot an ibex high up on a mountain and it took us some time to reach the animal. Though there had been no birds in sight when we started, by the time we arrived there were several eagles or vultures, a number of hawks and many crows about the ibex. It seemed that they must have been waiting, though it was impossible to say whether they came at the sound of our shot or had seen the dead animal from high up in the air. In less than ten minutes, however, quite a flock of the birds had gathered about the carcass.

In one of the lower valleys we saw a number of magpies, and *chikor*, or hill partridge, were common all over the region. At one place we met some Kal-muk hunters who were camped under over-hanging

rocks and these had a *ram chikor*, or snow cock, which they had caught in a marmot trap.

It was still August when our ibex collecting was finished, so we were too early to hunt stags with any great hope of success. Our limited time precluded a wait of over two weeks until the stags began to call, but we gave a few days, all we could spare, to an effort to locate one or more. In order to cover as much territory as possible, Clark and I separated, but though we both worked hard for a week, we saw no stags. Had we been retracing our steps back to the Tekkes Valley, as is usually done by hunters in the Thian Shan, we would have reached the forested areas bordering the Tekkes at the proper season for stag and could have, without doubt, collected our series of these animals. But our plan was to push eastward to the Yulduz and into the little known region of Dzungaria and Mongolia. We had realized, when we came into the country, that it would be pure luck if we were able to get stag, for we knew that we would be considerably ahead of the proper season.

The Thian Shan wapiti or stag (*Cervus canadensis songaricus*), ranges on steep hillsides where the forests grow so thickly that unless the animals can be located in advance, they are practically impossible to hunt. In size, the Thian Shan stag is somewhat smaller than the American wapiti, or so-called elk, but carries antlers which are relatively larger. In coloring, the two are similar, though in general the Thian Shan stag is grayer than his American cousin. Although we saw no wapiti, we were able to obtain some information regarding the methods used in

hunting them. The natives who hunt the stag for their horns when in the velvet, simply still-hunt them through the forest. During the summer and early fall, until the rut begins, the stags and hinds remain separated and both keep in the deepest and thickest parts of the forest. At those seasons they come into the open only in the late afternoon or evening to feed on bushes and a certain weed which they like. We were told that the rut, or at least the calling season, begins about the middle of September and lasts to about the end of October or possibly into the early part of November. We were given to understand that the weather plays some part in the beginning of the rut, and that cold, damp, dark weather will postpone the beginning, while bright sunny weather will bring it on at an earlier date.

The stags shed their velvet about the last of August and the first few days of September. Between that time and the beginning of the calling season, there are but two methods of hunting that can be employed. The first, which holds a bare possibility of success, is to sit on a hilltop and carefully watch all open places for sight of a stag which may leave the forest to feed. If one or more be located in the open, it is said not to be difficult to make a stalk, as during the feeding they seldom move any great distance. Failing to sight one by this method, the only other way is to still-hunt through the forest in the hope of coming across one and obtaining a quick shot. This, as we proved to our satisfaction, is a long chance.

During the calling season, stags and hinds are sometimes together, although lone stags are more

common. The method of hunting at that time is to listen for a call and then follow it up. If a call be heard late in the evening the chances are good that the stag will be nearby in the early morning so a very early start is made from camp and a position on a ridge above and within sound and view of the stag's probable locality is reached by daylight. If he calls again or is seen in the open, an approach is made under cover of the forest. During the calling season the stags frequently move their range and sometimes travel considerable distances. We were told that in rainy weather they call almost all day, whereas in bright weather they are usually silent during the middle of the day. Though we never heard one, the call was said to be similar to that of the Kashmir stag which, to my ear, is similar to the bugle of a North American wapiti.

Owing to the number of stags annually killed while the horns are in the velvet, they are much less numerous now than they were a few years ago. This will become increasingly true with the advent of modern firearms, which are slowly creeping into all sections of Central Asia.

We were disappointed over our lack of success with the stags but it was necessary that we push on without them. Even as it was, we had stayed longer in the ibex country than we had planned. However, we felt that our excellent series of ibex was a sufficient accomplishment for the time we had been able to spend in the district, so it was with few regrets that we decided to begin our journey eastward toward the Yulduz.

CHAPTER VIII

THROUGH THE YULDUZ VALLEY TO THE PLAINS OF KARA SHAR

NATIVE information regarding distances and hunting grounds is notoriously unreliable. This was borne home to us on numerous occasions throughout Central Asia. Many times we were told that a region which abounded in game was but a short distance away, but when we went there we found not only that the distance was greater than we had been informed but also that the supply of game was not what it was said to be. False information sometimes led us to almost barren ground after native reports had promised good shooting, for often our guides proved that they knew little of the seasonal movements or habits of the animals.

Nevertheless one must use native guides in a strange country and, to some extent at least, must follow their advice. So it was, when our ibex hunting in the Kok-su was finished, that we followed our local Kalmuk guide eastward over the divide separating the Kok-su from the Yulduz Valley. The Kalmuk had said that we would find sheep in the mountains bordering the Yulduz, and, if luck were with us, we might even come across stag by a further short journey across the ridge separating the Yulduz and Kungez watersheds. At any rate, little time

would be lost, for our route to Kara Shar and the plains would take us not far from there. While Clark was still away looking for stag in the forest further down the Kok-su, I had sent him a note to ask that he join me in the Yulduz when his hunting should be finished. For my short trip I took but a small outfit, leaving the rest to be brought along by Clark.

For a few miles we followed up the Kok-su Valley, which continually widened and afforded easy, open travelling to a divide of ten thousand five hundred feet. On the way to the ridge and for some distance beyond, we found considerable dampness in the ground and many boggy spots gave trouble to the horses. The streams we passed were mostly dry, so it was with some surprise that we noted the softness of much of the grassy levels across which our trail led.

Six or seven miles below the summit we came to a canyon where there was an outcrop of the same strata of sandstone conglomerate which formed the fantastic shapes of Kargai Tash. Here also, erosion had done some remarkable work on the cliffs, for there were pinnacles, caves, galleries, and small amphitheatres galore.

Off to the south were snowy peaks, a continuation of the magnificent Karlik Tagh in which we had been hunting ibex. Much of the ruggedness of the Karlik Tagh was lacking, however; there were snow-fields and glaciers, but the sheer rock peaks, rising like cathedral spires without a place where ice and snow could find lodgment, seemed to have stopped at the divide. Away eastward, almost invisible in a blue

haze, another snowy range, the Khaidu Tagh, raised its head. Nearer, on the left of our route, lay bare, reddish-brown mountains of lesser height with long slides of loose material and outcrops of solid rock near their summits. Grassy slopes among these hills looked like excellent wild sheep range.

The valley which we were entering was a peculiarly shaped depression between the mountains. As we progressed toward the east, descending along the banks of a tributary of the Khaidu River, we came to its confluence with the Tichik Yulduz. At this point, two valleys seemed to meet, the one on the left rising gradually toward the Kapchikan Pass, nearly a hundred miles to the east. On our right, the other valley dropped away slightly toward the southeast, in the general direction of Kara Shar. In reality, however, these two valleys are one, for the river flowing westward from Kapchikan Pass makes a hairpin turn at the confluence with the Khaidu, and turns back toward Kara Shar in the right hand valley. To the natives, this hairpin valley is divided at the river's turn. The upper portion is called the Tichik Yulduz, or Little Yulduz, while the lower and larger is known as the Great Yulduz—sometimes the Khaidu Valley.

For several hours a dim trail lead down the always widening valley. At a shallow draw some two hundred yards wide, our Kalmuk turned from the trail. He went about a quarter of a mile up the draw to a point which seemed to be a regular camping ground for Kalmuks with cattle. Quantities of teyzak for fuel decided me to camp, for there were no trees or bushes anywhere within sight. As we went fur-

ther along the Yulduz we found that the location of camp sites was governed by supplies of teyzak about the old encampments of Kalmuk herders.

The next day I trekked over an eleven thousand foot summit to the forested northward-facing slopes of the Kungez River watershed and there I spent three days hunting stag. But again I found that we were too early, for though a few tracks in the forest showed that the animals were about, it was impossible to locate them by watching or by still-hunting. It was some of the hardest hunting that I have ever done. The hill sides were very steep and the long grass which covered them gave a most precarious footing. Many times my men and I slipped and sprawled headlong in the tangled vegetation. When climbing upward, the labor was so accentuated by having to lift one's foot and push it upward and forward through the matted, rank growth that a few steps at a time were all that we could manage. We covered the country very thoroughly, both by observation and actual foot-work, but it was heartrending labor without reward.

Returning to camp one evening, we heard that an attempt had been made during the day to steal some of our horses. One of the men had seen a Kazak trying to drive them away, and had shouted, but the marauder paid no attention to him. Then one of the Chinese escort shouted, though again without result. The soldier thereupon fired a shot at the robber. This so frightened him that he left in a hurry, so fast indeed that he neglected to take with him a colt which was following his own saddle animal. The colt was captured by our men and taken

along. It was a pretty poor specimen, but as Clark said when he saw it later, "possibly it might be a horse some day."

All that night I noticed that the pony-men shouted at intervals. When I asked the reason, I was told that the horses had been tethered in camp and that the shouts were to warn possible marauders that the men were awake. It was a variation of the stick-tapping of our watchmen at Aksu, though there seemed little choice between the two methods as a means of keeping the camp awake.

The next day brought a note from Clark which stated that he had left the Kok-su and had gone ahead with the caravan to a point some thirty miles further up the Tichik Yulduz. There, he said, he was camping and looking for sheep. As there was little to be gained by further efforts for stag, I decided to join him. Again crossing the summit into the Yulduz and making two marches of thirty and thirty-six miles respectively, I reached Clark's base camp at a place called Narod only to find that he was in the hills. Next morning I joined him and we spent a day looking for sheep.

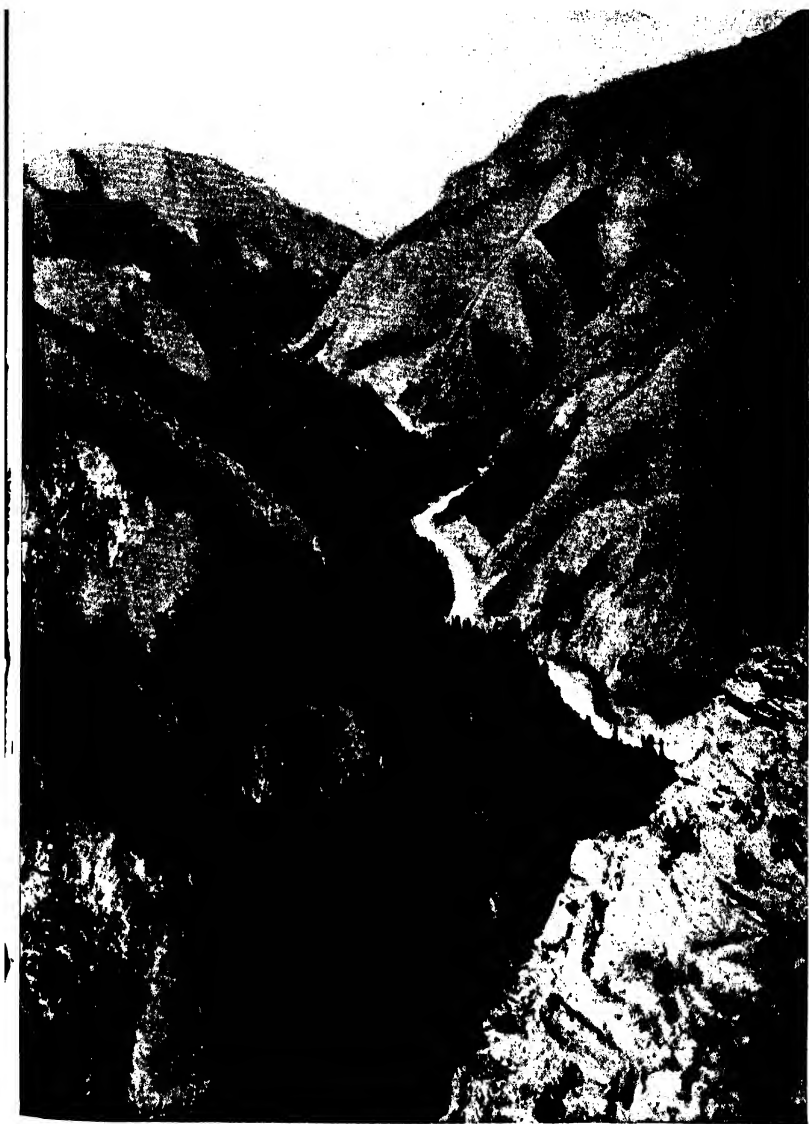
Eight rams were sighted at a distance. A long, sliding descent of an exceedingly rough mountain slope took us under cover, and had luck been with us we would have had easy shots. As it happened, however, an eddy of wind took our scent to the animals just as we were approaching a point of vantage. The next time we saw them, the sheep were strung out in flight across the valley. They were over two hundred yards away, but we opened fire and managed to bag one of the animals. Our prize

proved to be a mature ram, and though his head—forty-one inches around the curl—was not as large as we would have wished, the interest in this specimen lies in the fact that it may serve to identify the Yulduz Valley sheep.

In body size the sheep was slightly larger than a full grown *Ovis poli* ram. The reddish-buff color of the back shaded into white on the underbody; the small rump-patch was white and the muzzle noticeably so. Though the horns of the specimen we obtained were not developed sufficiently to be distinctly typical, other larger rams in the same band showed a rather closely curled type, with an outward flare after the "nipped-in" portion near the face. The color of the horns was considerably darker than those of the *Ovis poli*. We were told that wild sheep were to be found in scattered bands among the mountains as far to the eastward as Hami. Though it is likely that they are *Ovis littledalei*, almost no specimens have been obtained, so that that field should be an interesting one for future work.

As there were few signs of sheep in that section, we decided to move camp to the other side of the Yulduz, where, our Kalmuk guide stated, the sheep would probably be found in greater numbers.

We made a short march in the morning and spent the afternoon looking over the country which the Kalmuks said contained sheep at some seasons. Many old tracks bore out his statement but there were no sheep or fresh tracks to be seen. The Kalmuk, however, was not discouraged and said that one more march would bring us to a much better district.



A VIEW OF THE BEAUTIFUL KOK-SU VALLEY.

Typical ibex country lies among the nearby peaks.



IBEX COUNTRY, KOK-SU VALLEY, THIAN SHAN MOUNTAINS.

When I had rejoined Clark I was told of another attempt to steal our horses during his march from the Kok-su to the Yulduz valley. One of the soldiers had fired on the marauders and had wounded one of them. The wounded man, however, was hurriedly taken away by his companions and though we heard nothing further of the incident, it proved that an unprotected party might easily have their horses stolen during a journey through the Yulduz. At first we thought that the thieves were Kalmuks, but the soldiers said that they were Kazaks from the Tekkes and Kungez Valleys, who stole horses from the Kalmuks and drove their booty back to the Tekkes. There the prizes were kept for a time, to be taken later to Aksu and Kuldja and sold.

On the morning we continued our journey up the Yulduz, it was discovered that three horses had been stolen during the night. Tracks led toward a pass to the westward, so our caravan *bashi* decided to take one soldier and follow the thieves. Before he left, the soldiers rounded up three Kazaks who were seen at a distance. These chaps said that they were returning home with some of their own horses which had been stolen and which they had recovered. They produced papers which apparently satisfied our soldiers as to their identity.

One of these fellows seemed a person of consequence, for his dress was much better than that of most Kazaks. Furthermore, his leather boots were well made, while on his belt pouch were some rather beautiful decorations in silver. The other men carried across their backs amazing old flint-lock muskets with the crudely-shaped stocks so common

among native-made arms. The tremendously heavy barrels had octagonal bores. The Kazaks said that they had seen the tracks of the thieves who had stolen our horses, but they thought it doubtful that the men would ever be found. Their prophecy proved true, for several days later our caravan *bashi* returned empty-handed, to report that the thieves' trail had been lost among the hills.

On our way up the valley we were constantly in sight of Kalmuk *yurts*. They dotted the plains for miles in every direction and large herds of horses, cattle, and sheep were everywhere. At one time I counted seventy-five *yurts* within a radius of a few miles. The usual number of *yurts* together seemed to be five or seven, though in one lot there were seventeen. As we had noticed in the Tekkes, the roofs of the *yurts* were of steeper pitch than those of the Pamir Kirghiz, due to the great rainfall in the Tekkes and Yulduz Valleys. We were told that in October many of the Kalmuks moved to Kargai Tash and the Kok-su for grazing purposes. On many of the hilltops above the valley we saw piles of stone supporting branches of trees which had bits of cloth tied to their ends. A few of the tattered rags showed remnants of printing, indicating that they were prayer flags. None of the *yurts* had prayer flags and we saw no prayer wheels among the people.

At a *yurt* village the Kalmuks were making numdah felt. The process was the same as that we saw in the Tekkes, except that here the rolling of the felt was much more thoroughly carried out. At another *yurt* they were making felt boots, some of

which were simply bags formed without heels; at other villages, however, we saw them making properly shaped felt boots.

At one village we saw about twenty camels, though we learned that the Yulduz Valley Kalmuks did not raise many of these animals. Their principal wealth seemed to be their great herds of horses, cattle, and sheep. Along the northern side of the valley the grazing seemed rather poor, but down in the deeper central portion there appeared to be more grass and it was there that most of the herds were grazing. Almost all the valley was yellow and brown at that season; the only green places were along creeks and where water stood in occasional boggy spots.

Not far from the point where we hunted sheep, we passed a large white-washed building called Bein-Bulak. This was said to be the home of the hereditary Chief of the Yulduz Valley Kalmuks, a lad of about thirteen years. We were told that the building also served as a lamasery, or monastery where the lamas lived. At one Kalmuk *yurt* village we met a lama, a picturesque old chap with leather boots turned up at the toes as are those worn by Tibetan lamas. His long quilted red coat and a hat high-peaked at the back, also added to his likeness to the lamas of Western Tibet. The old fellow carried in his belt a pair of tweezers for pulling out the hairs of his beard, and the scraggly condition of his hirsute facial adornments indicated that he used the tweezers regularly.

All the Yulduz Valley Kalmuks, who were Torguts of the same tribe as those we had met in the Tekkes,

were Mongolian featured. Some of them wore queues, while others had their heads shaven; there seemed no reason for the difference except personal preference. Some of the men wore felt boots which reached to just below the knee. These had raw-hide soles, laced around the edges, and seemed the usual footwear, although a few individuals wore leather boots. Leather trousers, loose and very baggy, were common. A short jacket of either wool or cotton was worn under a long quilted cotton coat which reached to the ankles and was tied at the waist with a sash. The sleeves of the coat were very long and the skirt was slit up both sides to near the waist. Various headgear was worn by the men. A few used little, round skull-caps; a few wore felt caps like the Turkis, though most preferred felt hats of European design. These latter seemed to be quite a fad and it looked as though they were the latest thing in what the well-dressed Kalmuk should wear. Nearly all the men carried small leather tobacco pouches and some of them wore "fire makers," similar to those used by Tibetans. The women were flat faced, very Mongolian in feature and very, very dirty. Their clothing was always covered by long dark cloaks and their hair was worn long and braided. Women's headgear consisted of small skull caps with strings and tassels hanging from them. Their boots were similar to the men's.

In a driving rainstorm we followed a trail along the southern side of the valley. In places the trail was but a single track, while in others it spread out into many, deeply-worn parallel furrows. At these places it was noticeable that the ground was harder

and it seemed that caravans, when they came to the firmer surface, spread out to allow the animals to graze along the way. This caused the trail to expand in places to fully fifty feet.

We turned from the Yulduz up a side valley and made camp in the rain at a point called Tost-ta by our Kalmuk guide. There were no bushes in sight, but a low growth of *tōkh-hūl* or "devil's club," with which we had been familiar at Kain-ya-lak, together with a scanty amount of *teyzak*, gave us some very unsatisfactory fuel. It was near dark when we made camp, so only fuel enough for the evening's supper was gathered.

During the night the rain changed to snow and the temperature dropped sharply. By morning several inches of snow covered everything and made it impossible to find a further supply of *teyzak*. All that day the storm continued with increasing intensity, so we could do nothing but remain in our tents. The weather grew colder and as there was no way to warm the insides of our tents we lighted numbers of candles, closed the tent-flaps as tightly as possible, wrapped ourselves in heavy coats and spent the day reading and writing. There was no way to cook food that day or the next and the result was that we ate cold beans. Fortunately, the stream was not frozen, so at least we were able to have cold water to drink until we discovered that by utilizing out candle lanterns, we could heat enough water over the tops to make some rather mildly warm coffee. This was a notable addition to our menu and was the only warm thing we had to eat or drink for the two days.

During our stay at Tost-ta the temperature went down to two degrees above zero, and it was there that for the first time I saw something of which I had heard as a phenomenon of the sub-arctic regions but which I had never quite believed. This was the "anchor ice" which we saw forming on the bottom of a little stream that flowed by our camp. The ice was a soft, whitish mass which looked vaguely like rounded lumps of coral frozen fast to the bottom of the stream. Surface ice formed in many places along the banks, but this "anchor ice" was usually only where there was clear running water above it. The stream was an ordinary mountain creek, swift but not a torrent. We did not see the "anchor ice" in any other stream during our journey.

Our second day at Tost-ta dawned clear and bright, so our horses, which had been obtaining a very scanty forage through the snow, were driven into camp. We plowed upward through the drifts and spent the day looking for signs of sheep. Many tracks were seen but in nearly every case they proved to be those of ibex. Once we saw a single ram on a far distant ridge. With this exception we were unable to locate any of the sheep which our Kalmuk guide had promised to show us. Fresh tracks in the snow showed that at least one snow leopard had been ahead of us and on a distant snow-covered mountain-side, we could see other tracks which looked like those of sheep. But the snow had drifted so deeply that it was impossible to travel far among the hills.

From a position on the top of a ridge we could look off across the broad sweep of the Yulduz Valley,

where it was evident that the snow-storm had been general over the entire region. At times there were most glorious cloud effects. Below us in the valley, clouds would be seen forming and these would gradually extend until we looked down through a woolly-white, tumbled mass. It was interesting to watch this mass extend arms up the different valleys. At times we were just above the sea of cloud, then it would roll up towards us and for an hour or two we would be enveloped by it. At these times, of course, it was quite impossible to hunt and we were forced to sit in the snow in the chilly air and keep warm as best we could.

It was quite hopeless to find sheep under those conditions, so as our time was too short to allow us to remain longer than a day or two at the best, we reluctantly decided to push on up the Yulduz and over the divide to Kara Shar. Our one specimen was sufficient for identification purposes, and since the Museum already had an excellent exhibition series of *Ovis ammon* from Mongolia and our series of *Ovis poli* from the Pamirs, the lack of a complete group of the Yulduz Valley sheep was not serious.

After the snow-storm, the weather moderated and when we again reached the Yulduz, we found the ground again appearing through its mantle of white. Many marmot burrows were seen along the trail, but these were always unoccupied and it looked as though the Kalmuks had practically exterminated the animals in that section. There were a great many burrows of little rodents about the size of field-mice. We had seen the tracks of these animals in the snow on the hills about Tost-ta and once I

caught one of the little fellows. Unfortunately, however, I grasped him with my bare hand. With an angry squeak he viciously bit my finger, which so startled me that I dropped him. Before I could catch him again he dived into the snow and disappeared. We later caught another one in our tent and this little fellow we kept for two or three days. We tried to protect him from the cold, but though he was doubtless used to extremes of temperature, he froze to death one night. It was interesting to note that almost the moment he died, the fleas on him came to the surface of his coat. At first we did not notice them particularly, but they noticed us quickly enough and it took us a day or two to get rid of them.

In our journey up the Yulduz we saw two white swans flying slowly near the ground by the river and appearing to be quite at home in the valley. Many hawks, a few wild pigeons, great numbers of crows, a few large black ravens, a few magpies and many of the little gray "grass birds" which we had noticed in the Kok-su, seemed to make up the feathered denizens of the valley, so far as we could determine.

A march of thirty-six miles took us over the easy Kapchikan Pass out of the Yulduz and into a more broken country. For the next two days we wound through the rocky valleys of the Khaidu Tagh toward the plains and the city of Kara Shar. Down in the valleys we again came upon Kalmuks and were once more struck with the great facial likeness of many of these people to North American Indians. The women in particular, were they dressed like the squaws of any of several North American Indian

tribes, would have been unnoticed on any Indian reservation. When travelling, the Kalmuks use only the roofs of their yurts, which give sufficient headroom for short camps. We wondered whether the North American Indian teepee had not possibly been originally developed from the yurt of Central Asia.

Just before reaching Kapchikan Pass we overtook a caravan of thirty camels headed for Kara Shar. They had come from the Yulduz, we learned, and were loaded with wool. We were told that merchants in Kara Shar annually sent agents into the valley with rice, wheat, and other articles, which were traded to the Kalmuks for sheep and wool. The caravan travelled very slowly and we heard that it took them a week to cover as many miles as we made in two days.

The Kapchikan Valley, down which our route from the Yulduz to Kara Shar led, became narrower as it descended, until on our second march, it was a canyon not over one or two hundred yards wide. Red sandstone was the predominating rock composing the mountains on both sides of the valley. For much of the distance there was an almost continuous growth of trees along the floor of the canyon. They were nearly all willows, though one seemed to be a variety of poplar. These trees had rough bark and apparently grew to a great age. The trunks were from three to four feet in diameter and many of them were very twisted and gnarled; some even grew along the ground for several feet before they turned upward. There were many bushes, some of which grew to considerable size and

carried straight thorns nearly two inches long. These bushes had tiny red berries and a soft down where the seeds were ready to drop. This yellowish-white "fur" was usually near the tops of the bushes and gave them a peculiarly fuzzy effect when viewed from a distance. There were also other thorny bushes with dark red berries which tasted much like wild currants. Our men ate these berries in quantities, though we were not certain until we saw that there were no unpleasant after effects, that they were edible.

All along the trail bushes were hung with wisps of wool pushed from the packs of caravans. We had seen the same thing on bushes during the journey from Aksu to the Tekkes, although in that section it was not wool but cotton. Though the amount of wool hanging from individual twigs was small, it would seem that a considerable quantity must be dragged from the packs during a journey of several days.

Where the width of the valley floor permitted, there were grassy flats by the river and fair grazing was available. We passed several small herds of camels browsing on the willows. Most of them seemed in good condition, for their humps were solid and upright. We had already learned that to observe a camel's humps is the best way to determine its condition. If the humps are well filled-out and solid, the camel is fat and strong, but if the humps are limp and flop over on the animal's side, the animal is not in good condition. All the camels that we saw along the Kapchikan Valley had their winter coats well-grown and were magnificent beasts. Up to

that time, though we had had camels in our transport at different times in the Pamirs, they were still new to us and were always a source of interest. Someone has described a camel as "looking like a snake which had swallowed a grand piano," and this seemed perfectly to describe the ungainly brutes. Later on in Mongolia we were to learn considerably more about them.

The rocky Kapchikan Valley finally debouched on to the plains and we made rapid time to the city of Kara Shar. At a little town about twenty miles before reaching Kara Shar we overtook our caravan which had been sent ahead. The caravan *bashi* told us that they had just arrived and would come along to Kara Shar the following day. We pushed ahead with Mohamed and spent the night in a *serai* at Kara Shar. Though we did not expect our caravan until the evening after our arrival, early in the morning the sound of bells announced that they had come. We learned that they had continued their march just after we left and had kept on steadily all night, making in all, a journey of fifty-five miles in twenty-five and a half hours. They had rested only an hour or two at the village in which we had seen them. Once more, we realized that this caravan of ponies from Aksu was exceptionally energetic and willing.

After the caravan arrived, we moved from the *serai* and made camp in a garden by a river, where, in a shady nook under some trees, we found an ideal place in which to work. While sitting under the trees, working on diaries and accounts, there constantly came to us the tinkle of camel bells from the

busy road beyond a row of tall poplars. There was a haze of dust in the air and beyond the walls by the river, gentle splashings now and then indicated that some small animal was about. Off in the distance we heard the "oi-oi-oi" of the Turki *araba* drivers—a familiar sound along the cart roads of Turkestan. Sometimes this was varied by "ee-ee-ee." It was the Central Asian equivalent of the Yankee "gee" and "haw."

In our garden were some excellent patches of Indian and Kaffir corn, with the Indian variety predominating. Melons grew in profusion in the fields around Kara Shar, and though we were at first rather suspicious of them, we later learned to eat them and found them thoroughly enjoyable. One variety was the ordinary watermelon, but it was much sweeter than and far superior to the ordinary American variety. There was another melon, which was greenish-yellow, and about the size of what is known in the United States as a honey-dew melon. This had a flavor something like a cantaloupe but at the same time was faintly reminiscent of a watermelon. They were as pleasant to the taste as any melons I have ever eaten. The natives were very fond of them and pieces of melon rinds were littered about everywhere in the town and along the roads.

After our formal call on the *Taotai* of Kara Shar and his return call on us, we settled down to the business of re-organizing our kit for the onward journey.

Kara Shar was to be the definite ending of one phase of our journey and the beginning of another, for it was at Kara Shar that our Kashmiris were to



A CAMP IN THE IBEX COUNTRY OF THE THIAN SHAN.



HASSAN BAT AND AN EXCELLENT SPECIMEN OF IBEX.

turn back on their long journey to Kashmir, while we, with our sole remaining retainer, Mohamed Rahim, pushed ahead with carts as transport and local natives as drivers. For this onward stage it was essential that we buy saddle horses, so word was sent out that we wished to acquire three animals. In response to this, several hundred horses were brought for our inspection. It was impossible, of course, for Clark and me to look over this herd, so we turned over the work to Hassan Bat, our Kashmiri *shikari*. Although we ourselves gave little time to the preliminary elimination proceedings, we saw enough to convince us that the vicinity of Kashgar was well stocked with "crow-bait." Some of the horses which were brought by their hopeful owners to be sold to the unsuspecting white men were principally notable as exhibitions of the bony structure of the genus *equus*. A few of them could almost trot, though many, it seemed, would have rattled had they attempted any gait faster than a walk. On the other hand a few horses which were brought around were active and sturdy, and after the preliminary elimination was completed, we gave these careful attention. A tentative choice of three was made and they were led into the camp and kept over night. A mixture of Kaffir corn and barley was bought and the horses were given a big feed of it, for we had to learn whether or not they were accustomed to being fed on grain or were accustomed merely to grass. On our onward march there would be no opportunity to pasture our horses and if they were unaccustomed to a diet of grain they would be of little use to us. We finally decided to buy the ani-

imals we had tried out, and after the usual bargaining, bought them at an average price of about \$75.00 apiece. These animals were used until our arrival at Kobdo months later, and although they were pretty jaded at the end of their eleven hundred mile journey, they served us well. The two horses which Clark and I had, while they were excellent travellers and were tractable enough, were ordinarily inclined to be a bit too playful. Clark's mount specialized in kicking and mine in biting. In other words, when saddling or mounting them it was necessary for Clark to watch the heels of his animal and for me to watch the other end of mine.

As we expected to find cold weather before the end of our journey, we bought at Kara Shar a large caravan tent similar to the one that had been used by the pony men on the journey through the Thian Shan. This was an ingenious affair with two up-rights and a ridge pole. No ropes were used, but the bottom of the tent was pegged down on all sides. The floor area was roughly oval in shape, and as there were openings in both front and rear, it could be pitched so that the entrance was always away from the wind. There was ample room in the tent for our two sleeping bags and for a small fire between them. The smoke from the fire was carried out through the top of the entrance, which could be left open for that purpose. The design of the tent was such that if properly pegged out and anchored by boxes, it could withstand a considerable wind pressure, an item to be considered when travelling across the desert wastes of Central Asia. To go with the tent, we each bought a large *numdah*, or felt blan-

ket, to use as ground cloths under our beds. These were of better felt than the *numdahs* made locally, and we were told that they came from the city of Khotan in southern Kashgaria. These *numdahs* were heavy, and as our camps in Mongolia were often made on snow, we found that they formed an excellent insulation for our bed rolls.

Our Kashmiris were to take back with them all our Thian Shan collection, which consisted of the ibex series, the roe-deer series, and the specimens of gazelle and sheep. Although we were a little fearful of allowing our collections out of sight, it was impracticable to take them with us, for there was too much danger of loss in the unknown country which we were to traverse. In spite of our fears, everything came through in good shape and was received by the Museum in first class condition—a very favorable commentary upon the care given the articles by our Kashmiris, even in our absence.

The Kashmiris, led by Hassan Bat, travelled back to Aksu with the pony caravan that had served us so well in the Thian Shan. From there they retraced our steps to Kashgar and there, through the courtesy of Major Gillan, were assisted on their way to Gilgit. At that point, Major Loch, the Political Agent, helped them obtain transport for their journey to Kashmir. We later heard that they arrived in Kashgar about the time that we reached Kobdo.

Although our Kashmiris had been aggravating at times, they had served us well, so it was with a friendly feeling that we left them and started on our journey eastward toward Turfan and Urumchi.

CHAPTER IX

BELOW SEA LEVEL IN THE HEART OF ASIA

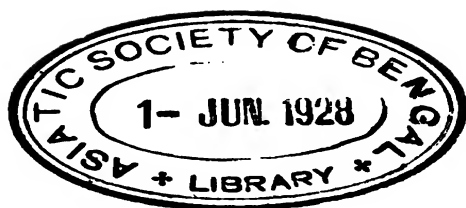
THE cultivated area around Kara Shar extended about five miles east of the city and that portion of the ride was cool and pleasant. Once out on the plain, however, heat and dust were with us for the remainder of the twenty-four mile stage and we were willing enough to dismount at a little *serai* in the small village of Tawilgha. Ponchos and saddle-blankets were quite sufficient bedding for a one night's halt; in fact they were all we used during the entire journey to Urumchi and Kuchengtze, for even when our carts were at the same *serais*, they often started ahead of us. We became well used to sleeping on earthen floors and platforms and really did not miss our bedding rolls in the least.

Just outside the gate of the *serai* at Tawilgha was a tiny mosque, the roof of which was decorated with several sheep-heads. In the center was the head of a wild sheep with horns which must have measured fully fifty inches. The curl was very tight and flared up sharply from the face after the first circle. We were told that the head had come from the mountains northeast of Kara Shar, and it was very probably that of a Littledale's sheep, the same species which we had found in the Yulduz.

Just at dawn, the muezzin of the mosque came to the door of the little building and intoned the Mohammedan call to prayer. In the twilight, his white-clad figure could be dimly seen, as with hands to his mouth, he summoned the faithful. The village was not yet awake and distant bird-notes were the only sounds except the rather melodious voice of the muezzin. It was the sort of picture which lives in one's memory, a veritable symbol of all the East.

Our three carts started from Tawilgha just ahead of us but the road was so deep in dust that wheeled vehicles could not make good time. During the stop we had had time to examine more closely the construction of these *mapas*. The wheels of almost all the carts were badly sprung and were very loose on the journals. The journals are slightly tapered and metal cores are poorly fitted in the wheel-hubs. A shoulder at the inside and a wooden pin at the outside of the journal hold the wheel in place. To tighten the wheel, the shoulder is pushed back, the wheel is moved further in on the journal and a new hole is cut for the pin. As a result almost every cart has a different gauge. We noticed variations of several inches in the gauges of the *mapas* we measured, and these variations were the chief cause of the wide ruts in the roads. Needless to say, the ruts were usually filled with sand and the cart wheels sank so deeply that, even where the grade was level, the *mapa* ponies could make but slow progress.

Soon after leaving Tawilgha, we again entered a sand and gravel desert, on which the only growth was stunted shrubs similar to the sagebrush of North America. A few small tamarisk bushes were



we met no vehicles during our daylight marches.

It was so hot and stuffy inside that we usually slept on raised earthen platforms in the courts, where we were always objects of interest to a crowd of Turks. We generally allowed them to stand about and watch us until they moved too close, when we decided enough was enough and chased them away.

Beyond Kumush, the road entered a winding valley, which afforded an easy route through hills that became higher and more rocky until, about twenty-eight miles out, they were several hundred feet high and the valley narrowed to about a hundred feet.

The main canyon and smaller side gorges showed dry washes, which indicated that a considerable volume of water flowed through them at some seasons.

The mountains through which we were travelling were composed of reddish and gray granite and dark gray rock of fine texture and an angular cleavage. Sometimes the canyon wall on one side was of granite while just across the gorge the cliffs were of an entirely different material.

In narrow portions of the canyon many huge slips had occurred and at several points the gorge had been entirely blocked at some time. The proportions of some of the slides were staggering. Tremendous boulders as large as houses had been brought down from the heights and in many places there was barely room for the cart track to pass between them and the canyon walls.

Thirty-three miles from Kumush we rounded a sharp bend and beheld a striking scene. Over the darker rocks on the right side, at a point where a deep gorge had once entered, a huge deposit of pink

mud had been laid down. It was fully three hundred feet deep and hardened to the solidity of soft rock. Its appearance was that of a flow which had stopped and hardened, rather than a slow deposit. As nearly as we could determine, the material was granite dust. On the mountains above were signs of the same coloring in the rocks and doubtless the flow of mud had come from there, though we could form no idea of what had brought it down.

The *serai* at Subashi, several miles beyond, was a large compound situated at the beginning of the plains leading down into the Turfan Depression. Sometime during the night two *arabas* pulled into the compound and under one of them hung three large bells whose tones were deep and sonorous. The bells were about eight inches long, four inches in diameter, and their wooden strikers fitted inside with only about an inch of play. Almost every *araba* carried one or more bells and their rather musical note was one of the familiar sounds of the trail.

From Subashi our *mapas* continued to Toksun on the cart road, which skirts the Turfan Depression on its western edge. They were to carry on toward Urumchi while we turned eastward toward the deeper part of the valley and across it to the city of Turfan on its northern side. We hoped to learn something about the character of this interesting valley, one of the little known parts of Sin Kiang.

Next to the valley of the Dead Sea, the Turfan Depression is the lowest point of the earth's surface not covered by water. It is a valley about a hundred and eighty miles long by fifty to seventy-five miles wide. On the north, the Bogdo Ola Range

risers to snowy peaks, while on the west the Khaidu Tagh stretches away in rocky ridges. Eastward, the plain extends for hundreds of miles, though at a gradually rising elevation. The portion of the Depression below sea level is not so great as the dimensions above given; roughly, it is eighty miles long and about twenty-five miles wide, and irregular in shape. The deepest point, 980 feet below sea level, is near the eastern end. The slopes of the depression are very gradual and it is impossible to determine without instruments where the sea level contour is located, so that the whole area above and below sea level must be viewed to secure a proper idea of its size.

In the western end of the Depression there is some vegetation, but eastward it becomes scantier until, toward the center, only salt beds and occasional areas of coarse bunch-grass are seen. There are a number of irrigated oases in the Depression and large cultivated areas around the city of Turfan, which is approximately at sea level. In the oases at the western end we saw excellent crops of Kaffir corn and vegetables. The oases of the eastern end are large and numerous, but we did not pass them on our way to the city of Turfan.

When we headed across the stony desert at the southwestern edge, we noticed many peculiar heaps of sand and rock on the sloping plain. There were long curving lines of them which seemed to lead, in each case, down natural slopes toward one or another of the several oases in sight. The mounds dotted the plain for miles. When we examined one of them we found it to be a shaft about four feet across and fully seventy-five feet deep. A small stream

flowed at the bottom, though stones dropped in indicated that the water was very shallow.

At first, we thought that the shafts had been dug as wells to obtain water for reclaiming some of the immediate desert, but closer examination suggested a more logical reason for them. All the wells followed definite lines along downward slopes, and in each case there was an oasis and dwellings at the end of the line. The shafts were spaced about fifty to a hundred feet apart and at the end of each line a small canal led water to the oasis. The explanations for these *karez*—as the peculiar system of irrigation is known—is that they were dug to tap a flow of sub-surface water. Starting from an area at which water was needed, shafts and small connecting tunnels were driven following the slope to a supply of underground water, which was led to the surface part way down the slope. There canals collected and conducted the flow wherever it was needed for irrigation. The volume of water was nowhere very great and, so far as we could see, it would not have come to the surface at all had not the wells and tunnels been dug. The method necessitates a tremendous amount of terribly hard labor in digging through the stony soil, but the results are some beautiful oases where otherwise there would be nothing but desert.

The *karez* system of irrigation does not, apparently, date back for more than a century or two and is said to have originated in Iran. Sir Aurel Stein, in *The Ruins of Desert Cathay*, states that his investigations in the Turfan district have led him to believe that "the district must have been able to main-

tain in ancient times a far larger population than now." He saw evidences, he says, "that desiccation had played a great share in this change."

At one of the little oases called Kaghachak Karez, we rested in the garden of a private house during the heat of the day. There were several men and women about and all seemed cleaner and more prepossessing than the people of the districts further south. The women wore their black hair in two long braids with a tight black cap as head covering. Their heavily darkened eyebrows were connected by a black line across the brow, which gave them a rather odd expression. Most of the men wore moustaches and long chin-beards, but the other portions of their beards had evidently been plucked out. All were well-built and capable looking.

While we were resting, several horsemen rode through the gate, one of whom turned out to be a *loya*, or officer, from Toksun. With him rode an orderly, one of the wildest-looking individuals I have ever seen. His head was shaved except on the crown, where the hair grew into a long queue; his face was exactly like a monkey's and long yellow fangs showed when he grinned, which he did much of the time. A short jacket, loose trousers, and wide Chinese boots were his uniform, while a rusty Mannlicher carbine and a dozen hand-loaded cartridges, stuck in his belt, formed his equipment. The officer told us that he was sent by the Commander at Toksun to accompany us on our ride to Turfan, where another escort would be furnished.

According to our map, there was a trail from Kaghachak Karez to a point near the bottom of the

Depression, where an intersecting trail to Turfan led northward. At the intersection, the map showed the name Bejantura and we took it for granted that where the two trails met there would be a *serai*, or at least a dwelling. Through our man Mohamed we informed the Chinese *loya* that we would stay that night at Bejantura and go next morning to Turfan.

When the warmth of the day was over, we took the trail and followed a local guide through the cultivated lands and across an area of bunch grass and small tamarisks. Just before sunset we saw one or two small gazelles far out in the desert and our guide told us that these *jeron* were fairly plentiful on the plains near the edges of the valley. As darkness came we left the vegetation behind and found our horses stumbling over lumps of rock-like earth where great salt flats stretched in every direction. The heavy deposits that crusted the surface seemed to be a mixture of lime and salt and were so hard that it was difficult to break off even a small bit.

About two hours after darkness had fallen, a dark bulk showed up ahead and the guide said, "Bejantura." In the starlight the mass looked like a large grove of trees, and visions of tea and a good rest in a courtyard gladdened our hearts. We approached the black object, but it proved to be a small butte of rock rising from the plain. The remains of an old wall near the bottom and a few mud bricks on the cracked and broken top some twenty-five feet above, showed that there had once been a building of some sort there, though in the darkness we could see nothing more. We asked Mohamed where the house was, and learned that there was no house!



A SNOWY CAMP AT TOST-TA, NEAR THE YULDUZ VALLEY.



HEAD OF ONIS LITTLEDALEI FROM THE LITTLE YULDUZ VALLEY.

Nor were there any people living near by, nor any wood, nor water, nor anything but a point on the earth's surface. It is not even a local habitation that bears the name of Bejantura! The joke was very definitely on us. We had said that we wished to go to Bejantura and stay there for the night. "Very well," evidently thought our guides. "If the crazy foreigners want to lie out in the desert all night, lie out they must and shall. No one can know what a fool white man wants to do anyway." Doubtless it never occurred to any of them to say that Bejantura was just what it is—a junction of several trails and nothing more.

However, there we were in the desert and the starlight, with nothing but more desert and more starlight for several rough and weary miles, so we spread our ponchos and saddle blankets and prepared for a night out. Fortunately the sky was clear and it was not too cold, so we passed a better night than might have been expected. Our elevation at Bejantura was just 910 feet below sea level.

Soon after daylight we struck northward across the wide expanses of encrusted flat toward the green of the Turfan cultivated area, which showed near the edge of the valley about twenty miles away. A few miles to the eastward was a small lake known as Aidin Kul. This was near the eastern and lowest point of the depression, and the water was said to be very brackish. Inasmuch as the lake is below sea level and has no outlet, any moisture finding its way to it must evaporate; hence the saltiness. Although the salt fields were dry and hard when we were there, appearances indicated that at some time

there is a considerable amount of standing water.

Far to the northward we could see the peaks of the Bogdo Ola and several snow-capped summits showed white against the blue of the sky. One or two of the Bogdo peaks are over twelve thousand feet in altitude and the proximity of these mountain masses to the Depression sometimes causes violent winds in the valley. We noticed that the grass was bent toward the southeast, and in the stony areas sand had collected on the southeastern side of rocks and hummocks, which all indicated that the winds were from the direction of the mountains.

After leaving the desert country, we followed a well travelled road and met several carts and riders with whom we traded clouds of dust. In the agricultural district there were fine crops of Kaffir corn and cotton in the fields. We had heard that the best cotton of Sin Kiang was grown in the oases around Turfan and certainly we saw more of it grown there than near Kashgar, Aksu, or Kara Shar.

As we rode down the brush-roofed bazaar street, all work and trade ceased while tradesmen and customers alike turned solemnly to regard the unusual sight of two very hairy, more-or-less-white men in their midst. On our arrival at a dirty *serai* just off the bazaar, a crowd came in to stand about and stare at us. Evidently few foreigners reach Turfan and we were the event of 1926.

A walk through the bazaar was interesting, though the crowd of some fifty or more people who followed prevented our going any great distances. It was obvious that Turfan is a notable trade center, for the bazaar was nearly a mile long.

Raw cotton, cotton-print cloth, leather, saddlery, saddle-bags made of carpets in startling colors, silk yarns, nails, and various articles of locally made hardware; all these and more were sold in the Turki shops. There were also several large Chinese shops offering a heterogeneous collection of articles, many of which were of Chinese manufacture.

There were many fine-looking vegetables and fruits on display. We noticed carrots, parsnips, beets, peppers, onions, melons, apples, and many others. Meat, usually mutton, was butchered in the street before the shop where it was sold. There were shops where ovens did duty for baking and for cooking and from these came odors much more pleasant than many which assailed our noses along the street.

Wheelwrights and blacksmiths plied their trades in other sections of the bazaar. At one place a man was spinning rope from a substance which looked like hemp. The fiber was twisted as it passed through his hands to a revolving drum, but so far as we could see, there was no braiding of the material as in some of the hair rope we had seen. The rope looked rough and not very strong.

At a barber shop, a victim was receiving a head shave and shampoo, while sitting on a stool which had a horizontal arm-rest in front; he leaned forward on the rest while the barber did his worst on the bowed head.

While we were slowly walking through the bazaar, we met a couple of *mapas* from which descended two Chinese bearing the red paper cards of the *Amban* of Turfan. We had already sent our cards to the *Amban* and were informed that one of the *mapas*

was to convey us to his *yamen* for a call, so we climbed in and bumped along the rough, dusty road. We found the *Amban* living in a walled portion of the town, about a mile from the Mohammedan city. The big gate through which we drove was the complicated entrance common to all Chinese city walls; one entered the gate only to find oneself still outside the main wall. Another gate, at right angles to the first, gave entrance to a pocket which was commanded by many loop-holes, and a third gate at right angles to the second finally admitted to the inside of the wall. The gate structures of the Turfan wall were of baked brick, the gates were of heavy wood, and the whole structure was surmounted by the usual gatehouses of Chinese design.

We rattled and bumped up to the *yamen*, where Mohamed gave our red cards to a servant and we followed the man into an inner courtyard. The main gate into the further interior was closed and the servant indicated that we were to take a small side gate, but we refused, as we knew that only those of low rank are required to enter the little doors and the big gates are opened for all visitors of importance. We stood quietly waiting before the big gates, and as soon as it was seen that we knew the proper procedure, a servant quickly opened them for us.

The *Amban* was a square-faced man of about forty years, who appeared alert and intelligent. He received us in a room in which two canvas steamer chairs, three vacuum bottles and a European mirror were notable objects of furniture. Tea was served from one of the vacuum bottles and the *Amban*

gave us cigarettes and performed the usual courtesy of holding the light for us himself. He was interested and most courteous and asked if there were any supplies we needed or help which he might extend us. He told us that he would send an orderly with us to Urumchi, as the man would be of assistance in arranging for accommodation at *serais* along the way. On our leaving, he presented us with a tin of pineapples which had come from Peking and another tin of some sort of preserved nuts which proved to be not very edible.

The *Amban* whom we had met was the Civil Magistrate of Turfan, but there was another call which courtesy required us to make, so we drove to the *yamen* of the Commander of Troops. This visit entailed another drink of tea and the smoking of one of the officer's cigarettes, but he acceded to our request and promised to have two soldiers at the *serai* to act as an escort.

One of the escort, an officer of some sort, was armed with a revolver and sword. During our ride from Turfan, I examined the revolver, which was an antiquated English weapon. He had five cartridges loaded with bullets which appeared to be hand-made. One of the bullets had become loose in its case and protruded about a quarter of an inch beyond the cylinder, which quite blocked any action of the arm. As usual, the bore was thoroughly rusty. It was a constant source of wonder to us how the army in Turkestan could be furnished with ammunition when there were so many different bores and arms.

We left the *serai* about one o'clock in the morning and the ride through the covered bazaar streets was

extremely weird. The dense darkness which surrounded us was only accentuated by the dim outlines of the house roofs against the faint light of a newly risen last quarter moon. A short halt was made at the city gate while a sleepy gate-tender looked us over and unlocked the big Chinese padlock which secured the double doors. The functions of some of the city gates in Turkestan is a mystery, for a considerable portion of the town and bazaars lies beyond them. In the case of Turfan, at least, access to the city could easily be had through other streets where there was no wall.

Once outside, the moonlight, though really dim, seemed brilliant after the total darkness of the bazaar. We passed through a considerable area of irrigated land, where the road turned and twisted between mud walls and under trees for about two miles. Then a sandy road led upward between yellow cliffs and followed several small canyons to the elevation of the plain above.

Our Kara Shar horses were proving themselves wonderful travellers and, though a little thinner than when we started, they kept their strength and did not lose flesh as rapidly as one might expect, considering the long marches and heavy travelling. Both horses carried a heavy weight of equipment, which included McClellan saddles, rifles, canteens, heavy coats, rain coats, and a pair of saddle bags usually full of small articles. Altogether our equipment probably weighed sixty pounds.

After reaching the plain we kept a steady five mile an hour jog in the face of a strong wind from the hills to the northwest. Along the road we met a

couple of Chinese pedestrians headed for Turfan. Their personal belongings were tied on each end of ten-foot poles, which they carried across their shoulders in the manner of Chinese coolies. It seemed not a bad way of packing over level ground, provided one could do the proper coolie shuffle.

Our horses arrived at Be-yan-ho hungry but surprisingly fresh. No corn could be purchased at the *serai* but some sort of meal was available, and this, mixed with chopped grass and straw, gave them a rather dry feed but the best that could be obtained. It was this sort of forage on which they travelled much of the way to Urumchi.

During the ride of forty-two miles from Turfan to Be-yan-ho, we noticed a white salt-like deposit at different places, though the water where we stopped was not noticeably salty. From the elevation of Turfan, which was approximately sea level, the road gradually ascended and crossed into another valley at a higher elevation, then crossed it and led over another low ridge into a third valley which was still higher. The plains in each case were similar: wide stretches of sand and small broken rocks between low hills to north and south.

The plains and valleys on the northern side of the Turfan Depression were covered with the same sort of broken rock as were those on the southern edge. The three desert valleys which we crossed might be described as benches or steps from the low areas of the depression to the higher levels of the northern hills. It was an interesting fact that all of the mountains in that region were absolutely devoid of vegetation, even on their northern slopes,

which indicated that it is a normally arid region. There were, however, many signs of erosion on the hills, which showed that sudden violent rain-storms sometimes visit the district.

We noticed a peculiar formation of yellow sandstone buttes which rose through the plain of gray sand and blue-gray broken rock, and the question arose whether they had been thrust upward or were the remains of a stratum of the yellow material which once overlaid the whole area. So far as we could see, there were no evidences elsewhere of such a stratum nor were there any places where a wash had formed deposits of a similar material at lower levels. So we were forced to believe that the yellow material had been forced up through the plain.

Beyond Be-yan-ho we were again in the mountains, and the road followed a rough, stony canyon where the few carts we passed seemed to be having a difficult time. The road crossed and recrossed a shallow stream and in places was so flooded from the stream that for part of the time we appeared to be travelling up a creek bed. The valley was wooded with poplars and willows and there were bushes in places covering the entire floor. The mountains were of a dark brown color which looked red in some lights. Strata of yellow rock showed here and there, and at one point there was an out-crop of bright red rock. Several cliffs along the valley had a pitted appearance and from a distance looked as though the rock were of igneous origin.

The poplars were just turning the gorgeous colors which they take on in autumn, and masses of these, with alternate groups of willows, made beautiful

combinations, particularly near places where the rock had a reddish tinge.

The gorge suddenly opened into a great valley whose eastern and western ends could be but dimly seen. Where the road entered, and for several miles beyond in each direction, lay a continuous area of green, with trees, fields, and little villages which gave the scene a charmingly rural appearance. All crops seemed in excellent condition and stacks of hay and straw about prosperous-looking farmsteads indicated a remarkably fine yield of grain and fodder.

But scattered throughout the cultivated area were the crumbling mud walls of abandoned buildings, usually among weedy fields which were no longer cultivated. Our guides and escort were a bit hazy regarding the reasons for the many abandoned farms, but we gathered that they dated from the rebellion under Yakub Beg in 1865 and the subsequent reconquest of the country by the Chinese in 1877.

Prior to 1865, a Moslem rebellion against the Chinese had been in progress for several years with varying success. The advent of Yakub Beg, an adventurer from Kokand in Russian Turkestan, consolidated the Mohammedans, and all the Chinese were either massacred or driven from the country. But Yakub Beg, who was given the title of Atalik Ghazi, or "Champion Father," by the Amir of Bokhara and styled himself the Bedaulet, or "Fortunate One," proved a hard ruler. Tax-grabbing officials and constant fighting bore heavily on land and people, so that farms were abandoned and the population greatly decreased.

The Chinese dispatched an army to reconquer the country but the long journey took time. In the comparatively settled areas of western China supplies could be obtained, but once they left cultivation behind and entered the great desert tracts of Mongolia, they were without means of subsistence. The Commander, however, rose to the occasion and halted his forces at the scattered oases, where crops were planted and temporary quarters erected. When the grain was harvested the army again moved forward. Something over two years after leaving China, the expeditionary force arrived in Dzungaria, captured Urumchi, Hami, and other cities, and finally routed Yakub Beg. The inhabitants, tired of the mis-rule and rapacity of the Atalik, welcomed the Chinese. The conquerors refrained from reprisals and, except for disarming them and confiscating many of their horses to prevent further trouble, treated the Turkis well and laid foundations for the present contentment among them. Even so, parts of Dzungaria have never recovered from the effects of the stormy period under Yakub Beg.

The green area extended some distance but at last gave place to stony *sais*—rock deserts similar to those on the edge of the Turfan Depression. For miles there was not a tree, not a bush, not a blade of grass nor any growing thing, and the effect was that of looking across a smooth, shining surface, as distance blended the small stones and the sunlight was reflected from their wind-polished faces.

A few magpies, many wild pigeons, sparrows, larks, several cranes near a lake, and some unidentified small birds, formed the feathered denizens of the

valley, though they were seen mostly in the earlier verdant area.

We passed several caravans of ponies along the way and one big caravan of a hundred and thirty loaded camels made us speculate as to whether their destination were possibly Peking.

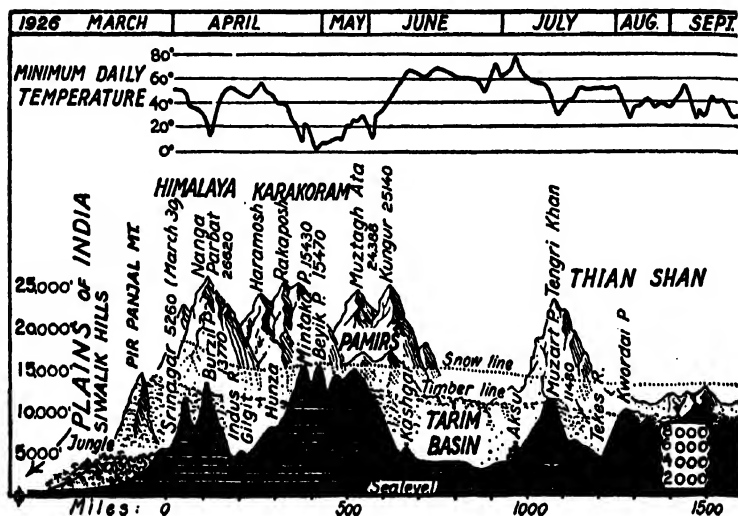
We caught up to our three carts during the march and found that they had made good time since we had left them several days before. They started ahead of us from the little *serai* of Tsai-o-pu, where we rested part of the night, and when we reached Urumchi next day they were already there. For the thirty-one miles from Tsai-o-pu to Urumchi the road was firm and hard, and throughout almost the whole distance lay among low hills which separate the big valley from the Dzungarian plains.

Urumchi lies just north of the last hills, in a bay of the mountain wall where a wide river valley comes from them and spreads out in a gravel delta about half a mile across. Plenty of water has made possible extensive irrigation systems, and one passes through a considerable area of trees and fields before reaching the first buildings of the city, a district outside the walls in which the Russian colony and consulate are located. As we rode slowly into town, we at once observed that a number of buildings looked almost European in design, especially in the old Russian quarter.

The presence of soft coal in quantities was noticeable and big carts carried heavy loads of it through the streets to sell in smaller lots to shop keepers and others. There are some shallow oil wells near Urumchi and coal and oil form the fuel of the city. The

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Chinese coke quantities of the coal and this is largely used for cooking, as it gives less smoke and fumes than coal, something to consider when flues are largely absent and gases pass out through holes in roofs.

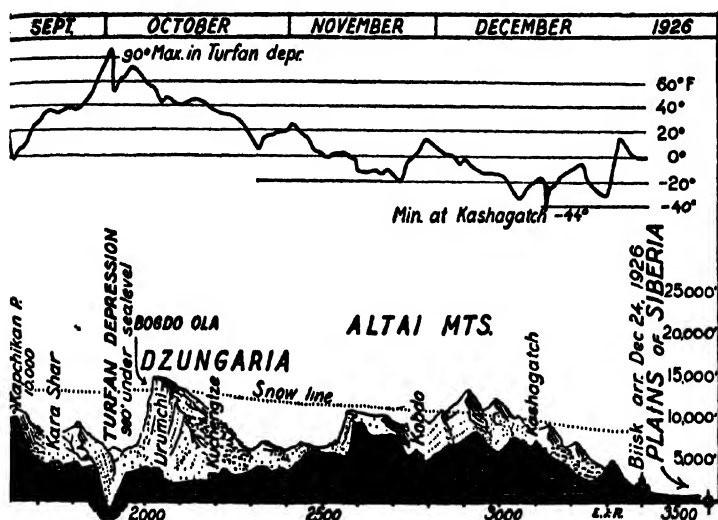


All through the city the streets were narrow, unpaved, and often very muddy and deeply rutted. Numerous carved wooden gateways and tiled roofs of complicated Chinese design appeared as we went further into the city, and an extensive use of very good quality of burned brick for buildings also became noticeable.

In the Russian quarter, through which we first passed, signs in Russian were as common as those in Chinese—even more so. We saw many white people in that district, and passed one couple, walking arm-in-arm, who would have been unremarked almost anywhere in Europe. It was distinctly novel

experience again to see white people in numbers.

Urumchi has a greater Chinese population than any other city of Sin Kiang and is, in many respects, typically Chinese. The bazaar streets contain shops of all sizes and trades, and many of them, run by Chi-



nese, show a variety of imported articles. We saw French perfumed soap, phonographs, flashlights, children's toys, mirrors, note-books, account books, writing paper, film cameras, and practically everything of which one could think.

In the food shops were fine-looking melons and vegetables, though we later learned that the melons came mostly from Turfan and Manas, the latter place on the road to Chuguchak and Siberia. Excellent white grapes, apples, pears, green peppers, and almost every variety of vegetable appeared on the stands of shops, though a very thorough washing in permanganate water would probably be advisable

before the using of any of them. Many goat-skin coats, known in Chinese as *pin-gao*, quilted cotton trousers, and fleece lined hats were on display in shop doors.

A section of the bazaar contained two-storied brick buildings where the better class of Chinese shops would have done credit to Peking. These shops were invariably clean and well kept, and we noticed tins of fruit, sea-food, and other articles of Chinese luxury as we passed. Equally noticeable, and much more interesting to us, were tins of English cigarettes, for our tobacco supply had reached the stage where it had to be replenished or carefully conserved.

Urumchi is tucked away close to the mountains in a sheltered locality and, though possibly not well situated strategically, is in an excellent location for administrative and commercial purposes. It is at the end of the southern caravan route to China, and when Mongolia was part of the Empire, the northern route from the east also ended at Urumchi. There are roads from Urumchi to Russian territory also; west via Kuldja and north through Manas and Chuguchak.

As the capital of Sin Kiang, too, its position is excellent, for it lies at the only point where the great wall of the Thian Shan is low enough to afford an easy route between Dzungaria and Kashgaria.

The name Urumchi seems to be corrupted from the Mongol name Ulu-muchi, or "Valley of Grass," and the city is known by it to Europeans, though its official Chinese name is Tihwa, or Tihwa-fu. The Chinese in the country, however, often call the city by its old Manchu name, Hung-miao-tze, or Red



A KALMUK FAMILY. WHEN THEY ARE TRAVELLING THE KALMUKS SOMETIMES SET UP ONLY THE TOPS OF THEIR YURTS.



A ROCKY BIT OF ROAD ON THE WAY TO URMCH.

Temple, which is said to have originated from a temple on a red hill near the site of the present town.

Like all Chinese cities, Urumchi is surrounded by a high wall, and the city gates, closed at sundown, allow no one to enter or leave until they are again opened at sunrise. Over one gate is a bell-and-drum tower with high-peaked, tiled roof with elaborately carved beams and eaves. A big barrel-shaped drum, and a most elaborate bronze bell fully six feet high by four in diameter, are on the first balcony of the tower. The city walls are of the usual earthen construction, with gates of fired brick and heavy wooden doors faced with iron.

Most of the Urumchi streets were exceedingly dirty, with smells that were just smells and did not have any slight hint of the Orient in them, as do those that assail one in India. There, a certain intangible spicy odor seems to be mixed with others not so pleasant, but in Urumchi, as in other Chinese cities, the smells were undisguised. Hundreds of dogs were all about, probably the only scavengers. Horsemen, many of them wild looking Kirghiz from Dzungarian plains, donkeys, big *arabas* loaded with coal and taking up practically the whole street with their eight-foot gauge *mapas*, which were exactly like the "Peking carts" of China, saddled and unsaddled bullocks, and every variety of pedestrian, made up a congested traffic which crowded the narrow thoroughfares almost beyond capacity.

After threading our way through many streets and under several gateways, we at last reached a large brick building which had "Post Office 1922" in English over the front. Mr. Cavaliere, the Postal Com-

missioner, had gone for the day, but we were told that he could be found at his home, to which a Post Office employee volunteered to lead us.

A ride of about ten minutes took us to his well-made brick house, well situated in a compound near the eastern gate. Mr. Cavaliere spoke perfect English and was most jolly and pleasant. He at once asked us to stay with him, gave us a big room with beds and bedding and had our *mapas* located and brought up. We were staggered to find that he had installed modern plumbing and a full length enameled bath tub, with oil drums from the nearby radio station used as water tanks. He had found the plumbing and tub at the Russo-Asiatic Bank, to which these unusual supplies had been sent from Russia years before. It was a revelation in comfort to have a hot bath and to sleep on a bed between sheets. The big airy house was warmed by huge brick stoves of Russian design. Coal fires inside these stoves thoroughly heated their large outside surfaces, as the smoke and heat passed through winding flues before escaping up the chimneys.

Our host, who was a bachelor, had a comfortable big room and study of his own, and a very home-like living room with many books, a phonograph with an excellent assortment of records, a comfortable couch, and several easy chairs. We found that he subscribed to a number of American magazines, which came to him by mail through China. He had had many things sent during his four years at Urumchi and lived well. He had a nicely stocked cellar, and in some ways, had more of the comforts of life in Central Asia than we do in the U. S. A.

CHAPTER X

EASTWARD FROM URUMCHI ON THE HIGH ROAD OF DZUNGARIA

URUMCHI is the seat of Government of Sinkiang, and the *Chiang Chun*, or provincial governor, has his *yamen* in the city. The military establishment of the province is under the governor, although each *Taotai* has a small force as a personal guard. The governor, who was appointed under the Empire, has during the recent troubled times of Chinese history become an almost independent ruler and has set a record, one might say, for continuous occupancy of the office. On one or two occasions, we were told, successors had been sent from China but in each case "accidents" had happened to them on the way. The Governor deals severely with any attempt at insurrection among his subordinates and we heard of one or two instances where aspirants had been dealt with in summary fashion. A few years ago, the commander of troops at Kashgar, one Ma Titai, had become so powerful as to be a menace to the peace of the province and a force was dispatched to deal with him. The expedition arrived at Kashgar one night and in the morning General Ma was awakened by the entry of several people into his bedroom. These individuals greeted him in

Chinese with a "Good morning, Your Excellency" and thereupon proceeded to make it certain that this pretender ceased to be a factor in the politics of Sin Kiang. From all accounts, however, General Ma thoroughly deserved to be killed, for he was known to have been unmercifully brutal to those over whom he had authority.

It is an excellent commentary on the Chinese Administration of Sin Kiang that in every district through which we passed, we found the people quite happy and contented. Although among the native population there is little intellectual progress, and the country, in the main, is mentally backward, the lot of the native inhabitants under Chinese rule is far from being a hard one. Doubtless there is graft among the officials, both Chinese and native, but the administration has not made the mistake of taxing the inhabitants heavily enough to cause marked discontent.

There are comparatively few Chinese troops in the province and those that we saw were a rather nondescript lot. As I have mentioned before, it was a constant source of wonder to us how ammunition could be supplied for the varied array of rifles which composed the arms of the soldiers who came under our notice. In the Governor's *yamen* at Urumchi we saw a few new Mannlicher carbines among the guard; with the exception of these, practically all fire arms carried by the Chinese soldiery were obsolete models.

Through Mr. Cavaliere and others we learned something of the population of the city of Urumchi and the province of Sin Kiang. At the time we

were in Urumchi, the total population of that city was about sixty thousand, which included some two hundred Russians, three Germans, two Englishmen, one Dutchman, and one Italian, the latter being Mr. Cavaliere himself. The Germans and the Dutchman were connected with a German trading company and the two Englishmen were missionaries. About two-thirds of the population was Chinese and the balance was made up of Tunguns and Chantos. There was also a sprinkling of Mongols and Kirghiz, though both of these might be called a floating population, as they were not actually residents of the city.

In the following table I have tried to give, in concise form, the results of our inquiries regarding the various peoples of Sin Kiang. There are a few which I do not mention in the table, but the ones given are the more distinct groups seen during a journey through the country.

Chinese:	Scattered throughout in the cities; in Urumchi they form about two thirds of the population.
Tungans or Dongans:	Chinese Mohammedans, said to have come originally from Eastern Turkestan some hundreds of years ago, and to have settled in Western China. They have intermarried among the Chinese until they have Chinese facial characteristics, though many can be distinguished from the Chinese by less Mongol eyes and features.
Chantos or Turkis:	These original natives of Turkestan are Mohammedans. Various features, shades, and colorings make difficult any determination of

race or origin. Some look Mongol in feature, some Aryan, some Caucasian; some are dark, some fair, some reddish; dark eyes, light eyes, and blue eyes are all found among them. The Turkis of around Kashgar and Aksu are usually darker than the Chantos of Turfan and Urumchi. Though probably both have come from the same stock, admixtures of different bloods in Dzungaria and Kashgaria have caused divergences in facial characteristics.

Sarts: From Eastern Russian Turkestan, around Tashkend. They look Semitic. Not many are in Sin Kiang.

Kazaks or Kaizaks: About Kuldja, the Tekkes Valley, Russian Turkestan and parts of Southern Siberia. Though many show strong traces of Mongol blood in the shape of the eyes, many are almost European in feature. They are closely related to the Kirghiz.

Torguts: Remnants of a once important Mongol tribe.
(Kalmuks) They are lamaists and are closely allied in feature, religion, and habits to Mongols, Tibetans, Ladakhis, Bhutanis, Sikhimese. They are very Mongol in feature and usually wear queues. Usually nomadic and pastoral, they are found in Yulduz district and near Kara Shar. A few are in the Tekkes-Ili district.

Kirghiz: These are to be found in the Pamirs and the district of Kara Shar. A few live in the Tekkes-Ili district, and more are in Southern Siberia. They are Mohammedans, and some are nomad while more are pastoral. They

probably have Mongol blood, and are said to have originated in the Yenisei Basin of the Altai.

Tartars: These are a mixture of Mongol and eastern European. They have come from eastern Europe. Few are seen in Sin Kiang.

Sarikolis: These Aryan-stock Mohammedans are not numerous. They all live in the Tagadumbash Pamir near Tashkurgan. They are rather a higher type than any of the other races seen.

Of these peoples, the Chinese, Chantos, Tungans, Turkis, Sarts, Tartars, and Sarikolis are sedentary or agricultural in their normal habits, and live in houses (except when travelling or hunting) either in towns or villages or in small farmsteads. The Kazaks also fall partially into this class, though they are sometimes seen living in *yurts* and herding sheep and cattle.

The Kalmuks and Kirghiz are nomads, do not practice agriculture to any extent, and move their *yurts* from place to place as the grazing needs of their large herds require.

Our first duty upon our arrival in Urumchi was a formal call on the Foreign Secretary of the Governor. Mr. Cavaliere sent our cards in advance and word was immediately returned that the *Taotai*, who acts as Foreign Secretary, would be glad to see us.

Mr. Fan-yao-nan, the *Taotai*, met us at his gate and ushered us into a reception room, where we were

served with fruit, candies, tea, and cigarettes. The room was furnished in European style, with a dining table and chairs which were evidently not of Chinese manufacture. The *Taotai* spoke no English, but one of the post office officials had been sent by Mr. Cavaliere to act as interpreter, so we had no linguistic difficulties. We had wondered whether we would be allowed to proceed eastward through Mongolia, owing to the unsettled conditions. Mr. Fan-yao-nan, however, said that there was no reason why we should not go ahead as planned, and offered to request the *Amban* at Kuchengtze to do what he could to arrange camels for us there. Our passports and permits were visaed by the *Taotai* and we took our leave from him with a pleasant feeling that he wished to do everything possible to help us on our journey.

Mr. Cavaliere was the proud owner of a motor car, a Packard twin-six which had come from China across the Gobi Desert. He told us that it was one of several cars and trucks which, under the auspices of the Russo-Asiatic Bank, had started to blaze a trail for a motor route to Sin Kiang. The Packard, he said, was the only one to arrive. Cavaliere had bought it from the bank, and though fuel and oil came from Russia and were very costly, he used the car for trips on the plains and to neighboring towns. However, his troubles as a motorist were many. When we arrived, we found him repairing the handle of one car-door, which had been broken when a horse gave vent to its indignation and viciously kicked the machine. On another occasion Cavaliere said, a horse tried to climb into the tonneau but stuck before he quite succeeded. During our stay

in Urumchi, we came to know more about the difficulties of motoring in that city.

After our call on the *Taotai*, Mr. Cavaliere drove us to the Russian Consulate, a white-washed brick building inside a high mud wall. Although he drove slowly, the ride in the car through the narrow streets of Urumchi was a hair-raising experience. Dogs were constantly dashing out almost under the wheels; one donkey took a look at the machine and refused to budge, while some half dozen horses ran madly down the road ahead of us, with their riders vainly attempting to guide or stop them. Altogether the advent of the car in any street was a signal for a stampede of people and animals and we could see why the Chinese, Chantos, and others called the motor a "devil wagon."

Yet, with all the near-accidents and general furore which we created, no one seemed angry. At every stop, a dense crowd gathered and many people got down on the ground to look under the car, probably to see from where the smoke and exhaust sounds came; others fingered the body and fenders curiously. Everyone looked amused and when Mr. Cavaliere blew the horn before starting, they all jumped and then laughed.

At the Consulate we met the Russian Consul, Mr. Alexander Efinovitch Bystroff, and several secretaries. At that time there was a mission from Moscow in Urumchi, which had come to negotiate a trade agreement with Sin Kiang. Lacking a treaty, trade had been officially prohibited, though we were told that a considerable volume of business was being done with the knowledge and tacit consent of the

administration. Wool and cotton were the main items exported to Russia, while oil, metals, and manufactured articles were brought back. Opium was also coming in, although it was officially prohibited.

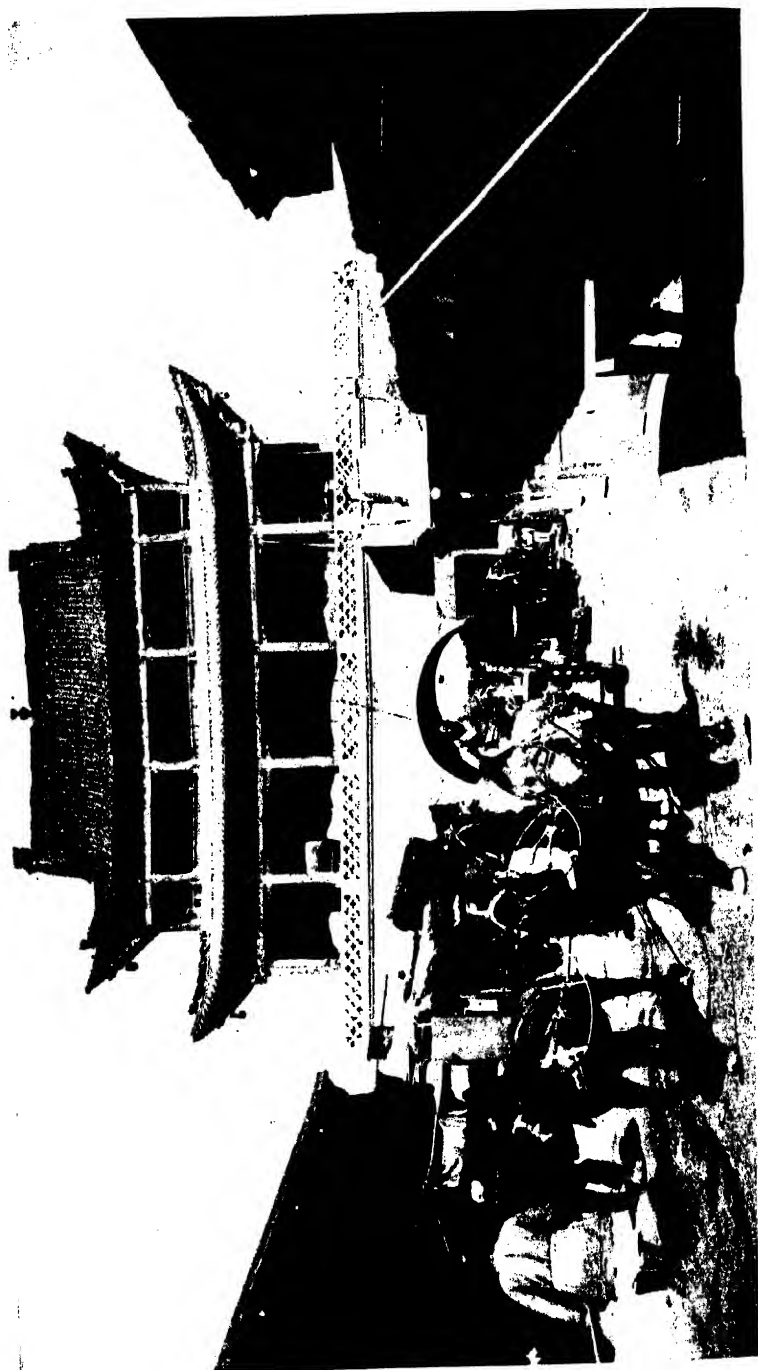
We were told of a shipment which had been confiscated about four months before our arrival. By the Governor's orders the opium was mixed with all sorts of refuse and put into a big caldron over a large fire. The Governor took a seat to watch the burning. Around the fire was a guard of soldiers. Every time the Governor looked away one of these men would whip out a cup from among the folds of his clothing, dip some of the filthy mess from the caldron, and promptly disappear. The Governor remarked that had he not been there, it was quite probable that none of the opium would have been burned.

Mr. Bystroff offered to send a message to Moscow asking that the Soviet Foreign Office request the Russian Consuls in Mongolia to be on the look-out for us, and to render us any assistance within their power. In addition to that he said that he would give us a letter of introduction to the Consul at Kobdo which would also be of service to us, should we go more directly eastward through Ulyasutai.

On our way home from the Consulate, I asked about sending a radio message from the nearby station, but Mr. Cavaliere said that it could not possibly be done that night as all messages had first to be censored by the Governor. It appeared that the Governor had assumed censorship and that the censorship of radio messages, telegrams, and mail was one of the methods he used to prevent insurrec-



WOMEN OF THE TURFAN DEPRESSION. THE HEAVILY PENCILLED EYEBROWS ARE TYPICAL



A GATEHOUSE OF THE CITY OF URUMCHI.

tion in the Province since no plots could possibly be hatched without some of the correspondence falling into his hands.

Our conversation also brought out the fact that the Governor's powers seemed to include those of life and death, at least over the soldiers. We were told of a soldier who was caught stealing shoes from some military stores and was shot by the Governor's orders, without any form of trial. Imprisonments and executions of the civil population could be ordered without recourse to higher authority, but punishment by mutilation, which was practised in the past, was no longer countenanced.

The following day we made our call on the Governor. Mr. Cavaliere went with us to introduce us and act as our interpreter. In an inner court, near the gate, were sheds, where the Governor's three cars were housed. One was an ancient American machine which had come from some organization in Siberia and which had been dragged by horses to Urumchi. The other two cars were antique foreign machines; none of them were in running order. Through large gates of the *yamen* we entered another wide court, and were met by the Governor himself, who took us to a small reception room on one side. The Governor, His Excellency Yang Tseng-hsin, was a man of about sixty or sixty-five years, with a gray chin-beard and very shrewd eyes. He was quite tall, for a Chinese, and altogether was a very capable-looking chap. A most villainous looking officer brought us tea. This fellow would have been able to go on the stage as a bandit in any melodrama, without the slightest make-up. The Gov-

ernor's little son, a bright-looking, petulant lad of about ten years, came into the room and now and then broke into the conversation. Through Mr. Cavaliere we thanked the Governor for the courtesies which we had received throughout the province and received his assurance that we would have aid in obtaining transport for our journey into Mongolia. Before we left he invited us to an informal lunch at three o'clock the next afternoon.

On the following day when we went to the *yamen* for lunch, we rode in Cavaliere's car and with us went the Governor's young son whom we had met the day before. On closer acquaintance the youngster proved to be amazingly spoiled. As we went along in the car, he shouted at every poor pedestrian who happened to be in the way. One child, who was almost run over, he demanded to have beaten at once. Cavaliere recalled one time when the Governor was riding with him, that they came to a point just outside of the city gates where two big carts were jammed in the road. One of the Governor's cars was following behind, and when Cavaliere stopped for the carts, an official jumped from the rear car, ran ahead and hit a policeman a heavy blow over the head with a club. Then he began to beat everyone in sight and to shout that they should have better sense than to obstruct the Governor's passage.

At the *yamen* we drove the car right up into the big entrance where a crowd at once collected. Our red cards were sent in and shortly the large gates were opened. The Governor and several officials met us in the first court and the Governor removed

his small black skull cap in greeting. We all shook hands and were then led through the many winding passages to a garden. Ahead of us marched two little soldiers in dress uniforms of dark blue-gray cotton cloth. The uniforms must have been new for they were much cleaner than any uniforms we had seen. The escort had flowers stuck into the muzzles of their rifles. In the garden was a summer-house where, in a plain white-washed room, furnished in European style, a table was laid. There we were once more welcomed by the Governor, who shook hands with everyone a second time, a rather pretty little custom. With his own hands he placed small cups of tea before us. This was not meant to be drunk, but was evidently a token of hospitality and of welcome. Four other Chinese officials came in, shook hands, and joined the party at the table. The chap next to Clark seemed to be the official drinker, for as soon as brandy was poured, this chap, whose glass held less than ours, tried to get us to drink bottoms up with him every few moments.

As usual, the first course consisted of many sorts of cold food; there was a variety of dry fish, cold sliced ham, something which looked like shredded cabbage, some sort of sausage and various other dishes. With their chop-sticks the Chinese put some of each into a common central plate, from which they picked bits occasionally as they wished. We were given individual plates and as a mark of honor the Governor picked out special bits for us to try. I struggled manfully to dissect one of the little dried fishes with my chop-sticks, which ordinarily I could have handled fairly well, but the fish won the first

bout and I gave it up. While our having separate plates was doubtless complimentary and certainly more sanitary, there was the drawback that it gave us less chance to decline food or to pretend to nibble at the various delicacies. Each time the Governor or one of the guests reached over and placed a morsel on our plates, the proper thing was to rise and bow, holding clasped hands in front of us and moving them up and down while bowing.

Course followed course and one or two, such as bamboo shoots and duck, were quite edible. Other items, however, were not so appetizing; for instance the white mushrooms which grow in southwestern China, and sea-slugs, rather terrible, soft, fatty masses.

During each course and between courses, the official drinker kept raising his glass to us, draining it and showing that he had done so. It seemed to be the height of hospitality to get one's guests drunk. After Clark and I had had a certain amount, we decided to go right back at this pest, so we kept him at it fairly steadily for a time, often working relays on him. Clark would drink to him, while I looked away, then, when his glass was again full, I would take up my glass and make him down another full one. In that way we did not do too badly.

At last came rice and tea. As the tea was served, Cavaliere gave us a signal and we took a small sip, bowed and shook hands with everyone; then we went outside and repeated the ceremony of leave taking.

As we left the *yamen* we heard the sunset gun, which meant that the city gates were closed and no

one could enter until after sunrise. Over the entrance to the *yamen* two or three electric bulbs gave a feeble glow, while off to one side, the coal-driven power plant puffed and sputtered. Both the Governor's *yamen* and that of the *Taotai* were wired for electric lights. Doubtless the electric installation comes under the head of progress and I thought the Governor would be proud of it. But when I suggested to Mr. Cavaliere that he tell the Governor how surprised we were to find electric lights away out in Urumchi, Cavaliere said that it might be more discreet not to mention it, as the Governor knew very well how poor the plant was and would think that I was being facetious.

Although our time was mainly taken up in rearranging our kit and replenishing stores of flour, rice, and various articles of food from the bazaar, we found opportunity to wander about the city. In the bazaars we stopped to watch various craftsmen at work. At one place they were fluffing cotton for the filling of quilts. On a flat table was spread a piece of cloth and on this was piled a fluffy mass of loose cotton. One worker had a long bamboo bow which he passed over the cotton, at the same time striking the string with a small wooden mallet. The vibrations of the string caught bits of projecting cotton and beat them down. When the cotton was sufficiently worked over, another man passed strings across it while a third made them fast on the far side of the table. When sufficient threads had been thus woven across the cotton, a covering of white cloth was sewn and stitched through to complete the quilt.

We also saw ingenious repairs being made to broken dishes and glazed chinaware. The workman fitted the pieces together carefully without the use of any kind of cement or glue. Then, having tied them with string, he drilled small holes with a diamond-tipped bow drill. After he had the holes drilled, he took the dish on his lap, and with a light hammer, tapped in tiny flat clamps of soft brass. Holes were so accurately spaced that it seemed seldom necessary to do much fitting. It was amazing how many pieces could be put together and still have the repaired dish quite strong and usable.

At Kara Shar, and again at Urumchi, we were puzzled by a low whistling sound in the air. It was vaguely vibrant and although not shrill, was something like the familiar little whistle of a peanut stand as it varies in a gusty wind. We often tried to locate it but it always eluded us. At times it seemed approaching overhead and again was far away and indistinct. We thought it must be some sort of a temple horn or whistle, but we could never hear it when passing a shrine. Cavaliere explained it. He told us that the Chinese fasten little whistles, made from nutshells or bits of bamboo, to the middle tail feathers of pigeons and that the sound we heard was made by them in their flight. We wondered if the pigeon when first equipped with one of these whistles did not think a Chinese devil was after him and break all speed records.

During our stay in Urumchi we were invited to the English mission for lunch with Mr. Hunter and Mr. Ridley, two missionaries. Mr. Hunter was an elderly man and had been in Urumchi for over

twenty years. Both these gentlemen were most courteous and through Mr. Hunter, we were able to check some of our information regarding the peoples of the country. These gentlemen were not at all sanguine that we could get through Mongolia by caravan and they did their best to discourage us from making the attempt. At the time it seemed as though they were unnecessarily fearful, but in the light of later experiences, we decided that they probably knew more about the subject than we.

Mr. Cavaliere very kindly offered to buy my personal check as, owing to the recent closing of the Russo-Asiatic Bank, there was no way in which we could obtain funds in Urumchi. He gave me Urumchi taels and with these we bought Yuan-shi-kai Chinese dollars and silver bullion, which we were told were current in Mongolia. The silver was first brought us in large ingots which weighed several pounds each. Some of these were simple bars of metal, others were cup-shaped ingots called "shoes," because they looked vaguely like shoes. Cavaliere said that in some Chinese provinces these silver bars and shoes were the only medium of exchange, as there was no provincial currency, and no national currency at the present time. The first ingots brought were too large so at our request they were taken back and re-cast into smaller ones which would be more usable. We asked Mr. Cavaliere whether the melters did not frequently incorporate lead or some other metal in their ingots, and he said that it had been done but that usually the larger shop keepers put their chop or seal on each one, and gave it a sort of guarantee. He also said that traders became

expert in detecting any impurity in the silver. With the lumps of bullion, we purchased a little scale to use for weighing the silver as needed. It was a crude affair but the only sort obtainable in Urumchi.

Mr. Cavaliere was the Chinese Postal Commissioner for Sin Kiang and he told us something about the operation of his department. About twenty years ago there was no Chinese Postal Department, though the Customs had a service of sorts for their own use. At the present time there are about a hundred and fifty Europeans of various nationalities in the service. First class mail for Peking is sent from Urumchi via Siberia, but package mail travels overland and takes forty days to reach China. Even that seems excellent time when the distance is considered, though of course the mail is relayed from point to point and travels night and day. Up to a couple of years before, a large part of the mail coming through Urumchi for transmission to China consisted of the horns of the saiga antelope, which the Chinese use in making medicine. As these were valued at about \$150.00 (Chinese) per pair, the mail carriers were held up and robbed so frequently that the department had finally to refuse to take them.

Besides the radio station at Urumchi which communicates with Mukden and Kashgar, there is a telegraph wire which runs overland across the desert to Peking, with another line southward to Kashgar. Much of the time, however, this land wire is out of commission and messages to Peking take weeks to reach their destination. As we rode along beside the wire during different parts of our journey, it was quite easy to see why the interruptions of service

were so frequent: fully half of the insulators were broken from the poles and where they were lacking, the wire was either nailed or tied to the pole. In fact it was difficult to see how any service at all was maintained over some sections of the line.

Our last day or two at Urumchi we spent in completing the buying and packing of supplies. We found German and Russian chocolate in shops in the Russian quarter, and tinned milk, American coffee, and tinned cherries in several Chinese shops. We had had a large caravan tent made at Kara Shar for use on the Mongolian plains, but found it necessary to have it altered in Urumchi. This tent was the sort used by Mongols travelling with caravans and was so arranged that a fire could be built in it. The material was a double thickness of coarse cotton cloth and jointed poles were carried as part of the fittings. We found it much better than our small "Whymper" tents when the cold weather really came on.

For transport to Kuchengtze, Mr. Cavaliere's servants hired for us three *telegas*, or small four-wheeled carts. Each of these little vehicles was drawn by three horses and their drivers promised that the hundred and fifty miles could be made in three days. When we saw the little wagons, however, we very much doubted their arriving in the time specified, or at all, for that matter. They were most crudely constructed. Strings, wire, and leather thongs were used to hold vital parts of the vehicles together and they looked as though they would fall apart at the first big bump. In contrast to the eight-foot gauge of the *arabas* which we had previously used, the

little *telegas* had a gauge of three feet and their tiny wheels seemed too weak to withstand an even moderately slow journey. Everyone assured us, however, that the *telegas* would carry our baggage without difficulty and were the usual vehicle for rapid travelling on the Dzungarian plains.

Before leaving, we went over to the Russian Consulate to say good-bye but found they had all gone off on a two-day shoot. On the way back, we met a mounted Kirghiz who carried on his right arm a huge golden eagle. The man had a heavy leather gauntlet which covered his arm nearly to the elbow and on this the bird was perched, while the rider rested his arm on a forked stick braced against the saddle. A long, coiled leather thong was attached to the bird's legs and a closely fitted leather hood covered its head and eyes. This the Kirghiz slipped off for us and the eagle, when unhooded, seemed quite tame and contented. We had seen golden eagles in captivity at several places in the Tekkes but this bird was the first we had seen carried about. Kirghiz and Kalmuks use these big birds for falconing. The quarry is usually such small animals as hares and young gazelle, though we were told that even full grown gazelle were sometimes brought down by them. Among the Kirghiz, falconing might be termed a major sport, with various kinds of hawks used even more extensively than eagles.

Mr. Cavaliere had been most hospitable and we had genuinely liked him, so it was with very sincere regret that we finally said good-bye to him as we left Urumchi. Our man, Mohamed, accompanied us as usual, and our three horses, rested from their long

journey, moved along easily and rapidly. The *telegas* bounced over the rocks and ruts and the horses going at a fast trot, kept pace with us. It was a new experience to have to keep moving so that our baggage train could travel as fast as it liked. It was interesting to find these *telegas* operating in the same country as the great eight-foot-wide *arabas*. The road to Kuchengtze skirts the northern slopes of the Bogdo Ola and is fairly level. There are comparatively few rocks in the soil, so that the little carts, though they seemed inadequate, were able to move easily inside the wide tracks of the *arabas*.

We left Urumchi late in the afternoon and had a rather weird ride in the dark. One town wall, which extended for fully a quarter of a mile along the road, loomed out of the darkness and gave a striking effect against the dim grayness of a cloudy sky. We splashed through unseen streams, dragged our horses to their feet when they stumbled, and though wet much of the time with a drizzling rain, made fair time for fifteen miles to Kumuti.

About twenty-five miles beyond Kumuti we passed through an area of trees and cultivation which extended for several miles on each side of the road. Along the road were mud-walled farm buildings amid fields of wheat and Kaffir corn which were irrigated by little streams led down from the mountains, some ten miles to the south. Towering whitely against the sky were the snow-peaks of the Bogdo Ola. This range extended practically all the distance to Kuchengtze.

We passed numerous ruins of farm buildings, and in places, fair sized villages seemed to have been

depopulated. These abandoned farms and villages were a noticeable feature of the whole journey to Kuchengtze and dated, we understood, from the rebellion of 1865 and the rule of Yakub Beg.

The farms along this northern road were mostly occupied by Chinese colonists, who were excellent gardeners and raised fine looking crops of vegetables and grain. Potatoes, beets, carrots, turnips, cabbages, and many other vegetables seemed to grow well, while the fields of wheat and corn were densely green.

The farmers of Dzungaria are almost entirely Tungans, Chinese Mohammedans from Kansu and neighboring provinces of western China. Tungans, or Dongans, as the name is also written, are believed to be remnants of the old Turkic Uigur tribe who became China-ized. Mohammedan tribes from Eastern Turkestan accompanied Jenghis Khan to China, and of these, the Tungans remained in China and adopted Chinese dress and customs, though they retained their Mohammedanism. Inter-marriage with Chinese has given the Tungans marked Chinese facial characteristics, though usually they can be distinguished from the true Celestial. There are numbers of Tungans in Urumchi, Kuchengtze, and in Kara Shar. In some cases they hold Government posts.

We passed but a few small flocks of sheep and goats and saw no great number of cattle. Beyond the cultivated areas stretched a desert plain, with practically no bird or wild animal life, but immediately we reached an oasis of trees and vegetation, hundreds of pigeons, crows, magpies, and starlings were seen along the road and in the fields. There



GOLDEN EAGLE USED AS A FALCON BY A KIRGHIZ OF TURKESTAN.



A TELEGA ON THE ROAD TO KUCHENGTE. THESE LIGHT WAGONS ARE OFTEN USED IN DZUNGARIA WHERE THE
HEAVY ARABAS PROVE TOO SLOW.

were almost no burrows of any small animals, possibly due to the heavy impregnation of alkali in the soil. This alkali was so thick that in places it looked like a light fall of snow. Alkali soil seemed to be general almost all over Sin Kiang.

The *potai*, with which we had become familiar in Kashgaria, was not used as a measure of distance in Dzungaria. There we found that the Chinese *li* was the unit and a *li*, in Sin Kiang, is three miles.

At Fu-Kang, ninety *li* from Kumuti, we spent the afternoon resting in a little *serai*. The usual crowd of Tungans, Chinese, and Chantos constantly came to the door of our room, where they completely blocked out air and light. Some even came inside to stare, make remarks, and finger our clothing and equipment. After several hours of this we had enough and pushed several of them out of the room. Later, while writing, I sensed that two more had entered, so without noticing who they were, I rather roughly pushed them forth. A glorious verbal row immediately started and it developed that I had ejected the local Chief of Police, who had come to see who and what we were. It seemed that we should have sent our red Chinese cards to the *shingan*, or town magistrate, but before correcting our social error, I had Mohamed explain to the policeman that that room was ours and that we were fed up with people continually barging in on us. I doubted that he understood or was in the least mollified, but cared considerably less than nothing whether he did or was. Anyhow, he went away after a further loud oration and we settled down, as we supposed, to sleep.

But about ten o'clock, a messenger arrived to say that the *shingan* wanted to see our passports, et cetera. That made me thoroughly peevish, as they were in my *yakdan* deep in one of the carts. It had to be done, however, so Mohamed and I routed out the *telega* men and finally got the *yakdan*. By then I was so angry that I decided to go on up to the *shingan's yamen* with the passports, so that I could make it quite plain to him what I thought of the whole affair. I took along my spotlight and had great fun shining it in the eyes of all the natives I met. The *yamen* was just inside the walled town and was much like those of the various *ambans* we had called upon. At first the two guides seemed to expect me to squeeze through a narrow opening between two big doors leading into the courtyard, but I refused and at last they got the doorkeeper who unlocked the chain. Then they tried to lead me into a small office but I refused to produce the papers until led to the *shingan* himself. So they lighted up his rooms and finally took me to him. He was a middle aged Chinese who seemed prepared to be nice and apologized at considerable length for troubling me. He said that he had not heard we were coming nor had he heard of our arrival until evening; that had he heard earlier he would have called on us, as he was required to see our passports and report our passing to the *Taotai*. When he had finished his explanation, I asked if he were satisfied, folded up my papers, shook his hand, and departed.

We had been told in Urumchi it was unnecessary for us to take an escort or an orderly on the journey

to Kuchengtze, so had not asked to be accompanied. However, incidents such as these proved that someone with authority would have been useful.

The next stage of fifty-four miles was easily negotiable, for the country was flat and the road rather good. We passed one Chinese official in a Russian travelling carriage, accompanied by an escort of three rather snappy soldiers. The party was travelling at a fast trot and turned out for no one; even the heavy *arabas* gave them right of way. There were also numbers of small ox-carts loaded with grain. These carts were very crudely made. Oval-shaped basket bodies held the grain and were supported on heavy wooden shafts resting on an axle which revolved with the wheels. Depending from a front cross-member, which connected the shafts, was a hinged wooden rod which allowed the carts to be parked in an upright position and when dragging underneath, acted as a sprag and prevented the bullocks from backing down hill with the heavy, easily-spilled load. The carts travelled in convoys of fifty or more, and seemed to be a common vehicle throughout that section.

For several days before our start from Urumchi, low clouds had hidden the Bogdo Ola and it was not until the second day out that the sky cleared so that we could clearly see the mountains. On our last morning there was a beautiful sunrise and the peaks, covered with fresh snow, were gloriously tinted. It was one of the few fine sunrises we had seen since leaving the Himalaya. There were several peaks near Urumchi which showed large fields of perpetual snow, though the eastern portion of the range seemed

to have but a light covering. We noticed that the first foot-hills, though higher than the valleys between them and the main range, were without snow, while the valleys beyond were white. The explanation seemed to be that the warm air from the desert, circulating about the foothills, prevented the early autumn snows from lying on them. Through glasses we saw heavy forests of conifers on many of the distant mountains, and our men told us that the wooded tracts were nearly continuous along the northern slopes.

As the sunrise became more vivid we constantly stopped to gaze at the beautiful panorama. Between us and the hills spread many miles of fields, broken here and there by clusters of trees. Some of the foliage had turned to the brilliant shades of autumn, while other trees were still bright green. As the sun became stronger on the mountains, each deep gully was in heavy blue shadow and made even stronger contrasts with the clear cut peaks above. A great flock of geese rose from the flats and circled about with loud honkings, while the sun on their light wings and bodies tinted them red and pink against the sky. There were so many geese that at first we did not realize what they were and thought them the ever-present crows. When, however, they at last took their formation and headed westward, we were certain of their identity. With the bells of our *telegas* jingling as the carts wound back and forth and swayed from side to side ahead, with the sunlight tinting in many colors the dust-clouds they raised, with the geese circling above, and with the magnificent Bogdo Ola seen through the trees, we

made our way optimistically on, unconscious of the difficulties that lay ahead.

Toward Kuchengtze we again saw a few *yurts* and many herds of cattle, sheep, goats, and horses on the plains. The Kirghiz were now wearing their winter garb: goatskin trousers, heavy goatskin coats, and peculiar, conical, hooded caps with long neck and ear pieces. Since the weather was not cold, they left the ear pieces of the caps flapping and these gave the riders a peculiarly wild appearance.

To reach Kuchengtze the road circles around to the north of a spur of the Bogdo Ola. The town lies on a flat, and its battlemented wall can be seen for some distance before the first houses are reached. We arrived at Kuchengtze at four o'clock in the afternoon, after making the hundred and fifty-six miles from Urumchi in just three days, or an average of fifty-two miles a day. The weird little carts had done exactly what their drivers had said they would, and still somehow, they held together.

Kuchengtze, or Guchen, as it is usually written in English, may be termed the "port" of Urumchi, for it is the actual end of the caravan route between China and Dzungaria. Here, the caravans strike their first large city after the long trek across the Gobi Desert. Goods brought by them are unloaded in Kuchengtze and distributed to other caravans for transport to Urumchi and beyond. Eastbound caravans also start from Kuchengtze, and the bazaars cater especially to them. Heavy garments of sheepskin, goat-skin, and quilted cotton are displayed in the shops, and various articles used by the camelmen are made and sold in the city. There are

several Chinese companies which do a regular business of forwarding goods by caravan to China. One or two of these are branches of houses in Tientsin, and will undertake to deliver consignments to any part of China. For nearly two years before our arrival in Kuchengtze, however, the Kansu route had been practically unused, for various Chinese armies operating near the eastern end had made travel unsafe. We were told that there had been no caravans from China for over a year.

Cavaliere had given us a letter to a Russian named Rossoff, who managed the Kuchengtze warehouse of the Russo-Asiatic Bank. Inquiries along the streets gave us the direction, so we clattered through the bazaars while all business was suspended to watch our passing. Alongside many of the streets ran irrigation ditches, entirely covered with layers of brush, matting, and earth, except for holes at intervals where the people could dip out water. The ditches were open as they passed through gardens, which they supplied with water. Drinking water, taken mostly from cleaner channels outside the city, was peddled about on donkeys.

Rossoff, we found, could speak a little English and greatly prided himself on it. He readily agreed to let us camp in his garden. While we were making camp, a petty Chinese official arrived to inquire who we were, where we came from, and where we were going. Through Rossoff, and his Chanto interpreter, we identified ourselves and showed the man our passports and credentials. Then he demanded to see the contents of our boxes. This seemed a bit of unnecessary officiousness so we asked our Russian

friend to tell him that we would not open our kit for his inspection but would call on the Magistrate and explain next day. Rossoff became quite frightened and begged us not to stand too strongly on our rights, as he might get into trouble because of our refusal. Since we were, technically at least, his guests, we desisted and prepared for an extended examination with not very good grace. But the little show of anger had calmed the Chinese inspector and he departed without bothering us further.

We were at a loss to understand Rossoff's fear of the Chinese until he told us that he was a "white" Russian and had not acknowledged the Soviet Government, so had not even the doubtful representation of the Consul at Urumchi. But as he said, even had he been represented by the Consul, the lack of extra-territoriality of the Russians would make him entirely subject to Chinese law. In other words, in that far part of the world, should the local magistrate see fit to fine or imprison him for any real or fancied reason, he would have no recourse. That his fears were not groundless, he proved by several instances which had occurred to Russians in Sin Kiang.

After learning the facts we could quite understand our host's position and desire not to affront the local authorities. He told us that he had passed through some bad times during the Russian Revolution and though he had been a Vice-Consul under the old regime and was evidently a man of considerable education, he was in such a pitifully nervous condition that we found him of little service during our subsequent dealings with the *amban*.

The following morning we rode to the *yamen* of the *amban* accompanied by Mr. Rossoff and his interpreter. Although our Russian friend said that it was unnecessary to take Mohamed, we took him along because he spoke a certain amount of Chinese. We had found Rossoff apt to give an inaccurate interpretation, so it seemed best to have Mohamed to check the conversation. When we arrived at the *yamen* our cards were sent in and soon afterward a servant beckoned us to enter a small gate at the side. This, however, we refused to do.

Rossoff begged us to pocket our pride and go in by the small door, which he said was the one he always had to use. But we were determined to see the affair to a finish, though it was fully half an hour before the Chinese finally decided that we rated the main entrance. By that time Clark and I were thoroughly angry and our companion was nearly in tears.

When, at last, the large doors were opened for us Rossoff was in such a state that he proved quite useless as an interpreter. Through Mohamed, however, we managed to make ourselves understood, and as soon as the *amban* had seen our credentials he assured us that he would do everything he could to find camels for our onward journey. He said that the delay in admitting us had been caused by a mistake in reading the names on our cards. It was a rather lame excuse but we let it go. The letter from the *taotai* at Urumchi had been received, we learned, but the *amban* had thought it best to await our arrival before doing anything in regard to our caravan. At our request, however, he detailed two

of his staff who were to endeavor to find camels for us.

After leaving the *yamen* we rode to several of the caravan agencies, but in each case were unable to obtain camels. The Chinese managers at first were interested, but as soon as they learned that we wished to cross Mongolia they said there were no camels available. Unable to do anything by ourselves we had to fall back upon the men detailed by the *amban*, and wait, as patiently as we could, for them to produce a caravan.

Several days were spent in hopeless waiting for news of available camels; we even tried to buy them, but found that there were no good ones to be had. The two men from the *yamen* came each day to report that camels would be found "tomorrow," but that was as near as the animals ever came to arriving. It seemed as though we were against a wall and could not possibly get away to make the crossing of Mongolia. There was nothing that we could do to help ourselves, either, and though we tried every means, we made no progress.

At last Mohamed, who had been making inquiries of his own, brought a Chanto who, he said, had camels and caravan equipment which he would rent for the journey. We questioned this chap and learned that he had thirty camels which we could hire for the trip to Urga at a price which was equivalent to the full value of the camels. For this amount, however, he included camel saddles, the services of himself and five men with their food and camp outfit, and a certain amount of forage for the camels. We looked over his camels, and as they seemed to average well,

we hired Omar Achun Bai and his caravan for our onward journey. He produced a man who was said to speak Mongolian and to know the route. Although we had no way of checking the knowledge of this individual, he was the only one available to act as guide and interpreter, so we took him on.

By the time we had completed arrangements for the camels it was after the middle of October and cold weather was due almost any day. Estimates of the time necessary for the twelve hundred mile journey to Urga varied from forty days to seventy days. No one seemed to know how long it would actually take. There was no doubt, however, that we would find bitterly cold weather for a good portion of the trip, so we bought heavy clothes for ourselves and Mohamed. These consisted of long heavy goatskin coats, felt boots, and huge dogskin helmets which came down around necks and faces. Our Kara Shar horses were to go with us, so for these we purchased corn and barley, since they would find no grazing on the barren plains of Mongolia.

We were told that by feeding grain to the camels it would be possible to travel without stops to allow them to rest and graze, so several loads of grain were taken. Actually, however, this information proved inaccurate, and we found it necessary to stop every two or three days to rest the animals. As the Asiatic, or Bactrian, camel is a cold weather animal and travels best at night, we followed the suggestion of our Chinese friends and ordered constructed two boxes in which we could ride. These contrivances, known in Chanto as *johs*, were wooden frames covered with felt. They looked rather like dog houses.



CHINESE SOLDIER OF ESCORT, INDULGING IN A QUIET OPIUM SMOKE WHILE AWAITING
START OF CARAVAN FROM KUCHENG TZE.



THE MORDEN-CLARK CARAVAN ENTERING MONGOLIA.

One was slung on each side of a camel and in them we were to coil up at night. The idea seemed reasonable enough, for we hoped to make long marches and the use of these *johs* would enable us to obtain some sleep. As a matter of fact, however, when the cold weather came on we found it impossible to keep warm in them. Furthermore, the unusual motion was very unpleasant; the first time we tried them both Clark and I became thoroughly seasick.

The *amban* gave us a little flag which was to be carried on the leading camel. This indicated that we had the official sanction of the Government, and was to prevent our being questioned or molested while in Chinese territory. When we went to the *yamen* to get the flag, a small brass casket, wrapped in yellow silk, was brought into the room by one of the officials. The *amban* gave a man a key to the casket and from it a large seal and a pad of peculiar red ink were taken. This was the official chop of the *amban*, and when stamped over the Chinese characters on our flag, made the latter official.

When we questioned our guide concerning his knowledge of routes to Urga, he said that the short route directly across the Gobi was infested by thieves and robbers for part of the way at least and intimated that these individuals were accustomed to shoot first and rob afterwards. Though we were not greatly impressed with this danger, it appeared that he did not know the short road well but did know another slightly longer one, which led north toward Ulyasutai. On this route, also, according to the

guide and Achun, the caravan *bashi*, there was a chance that we might find the *saiga* antelope, one of the chief objects of our Mongolian venture. They were said to range at one place near the route, so we hoped to have time to locate them and collect a few specimens. This information served to hearten us after our delays, and gave us an added incentive to begin the journey.

CHAPTER XI

CAPTURED BY THE MONGOLS OF THE DESERT

ARRANGEMENTS were at last completed and on the morning of October twenty-third we were ready to leave Kuchengtze for our long caravan journey into Mongolia. Two *yayins*, or orderlies, were sent by the *amban* to accompany us for the first stage. They were wild-looking individuals, who made themselves quite at home about our fire. One of them spread a coat on the grass, lighted a little opium lamp, cooked his pill and proceeded to "hit the pipe" long and hard. Although we knew that opium was smoked in Sin Kiang, it was the first time we had actually seen it done.

With our little official flag fluttering above the leading camel and our two *johs* slung on either side of the second, we wound through the streets of Kuchengtze and passed through the city wall onto the plain. The thirty camels were in units of ten, with a little red-haired Chanto leading the first section from the back of a very diminutive donkey. A fat little horse led the second section, while the third was led by another donkey.

The caravan *bashi's* two dogs ran a gauntlet of curses from all the dogs along the streets. One camel carried two large wooden water casks, a cus-

tomary item of equipment for desert travel in Central Asia. Nearly every camel had a bell of some sort, each with a different tone. The deep sonorous booms of one big bell made an undertone for the lighter notes of the numerous smaller ones, and the whole blended into mellow harmony as the camels stepped majestically along.

For the first few miles the road crossed a prairie of yellow grass, but when this ended we were on a tremendous plain, a veritable desert which extended south to the mountains twenty miles away, and northward as far as we could see. During the whole first day out we passed not a single tree or bush, though the ruins of many old buildings and the remains of irrigation ditches here and there showed that at one time there must have been a considerable cultivation and population.

Our first march was to be twenty-five miles to a small town called Chitai, and for this stage we were on the main caravan road. The first plan had been to continue to Barkul, but after leaving Urumchi the guide decided to leave the main road at Chitai and, in order to shorten the distance, strike northeast across the Dzungarian plains toward the Altai Mountains. I had tried to learn the names of points along our route beyond Ulyasutai, but our guide's information seemed very vague. All the places he knew were between Kuchengtze and Ulyasutai, the first half of the journey; he said we were to go north toward Ulyasutai and turn east just before reaching there. All that we knew definitely was that it was winter, that we were about to cross some twelve hundred miles of desert, broken by a great mountain

range, that we would pass but few habitations and fewer towns, and that we had no permits to enter Mongolia. In other words, though prepared as well as possible, we were really pushing off into the unknown and were trusting largely to fortune.

In the light of later knowledge, it came home to us that the country was one in which judgment and due caution must be used. For though it is quite feasible to travel with a proper outfit unless one should meet with hostility from the natives, it would be very easy to make a false step which might have serious consequences. A lost trail with a blizzard raging for days when the cold had become really severe, might lead to a loss of horses, donkeys, and possibly camels, and necessitate the abandonment of a considerable portion of equipment and stores, if nothing worse. Aside from any unfriendly attitude of the Mongols, a winter journey into the deserts of outer Mongolia is a bleak, cheerless affair and not to be lightly undertaken. We were more and more forcibly impressed with this as we proceeded further into the country.

Since we would pass no more towns, the caravan *bashi* decided to halt half a day at Chitai to buy additional camel fodder. When the caravan arrived, the men unloaded an ingenious and effective shelter for cold weather travel. Roughly, it was the top of a *yurt* without the sides. Into the center ring of a small *yurt*, they inserted straight poles, which formed a conical framework about eighteen feet in diameter at the bottom and about twelve feet high in the center. The poles were spaced and tied by ropes, and *numdahs* were wound around the outside

as on a *yurt*. It was so far superior to our own caravan tent that we wished we had known about it before leaving Kuchengtze.

It was well after dark when we arrived at Chitai and as the evening was still and beautiful, Clark and I considered dispensing with our tent for the night. But deep dust lay thickly about the camp site, so we put up the tent to protect our kit from any vagrant breeze which might come along.

The air was so still and cloudless—and we were so sleepy—that we did not take great pains to see that the tent was especially anchored; as soon as we could get a bite to eat and unroll our sleeping robes, we crawled into them, looking forward to a comfortable night's rest. I had just begun to doze when a distant roar awakened me. Before its meaning dawned, a gale which approached the velocity of a hurricane struck us. The wind brought a cloud of dust which was so thick that we could scarcely breathe. The tent, rather loosely pegged, began to go. Clark and I desperately jumped for the poles and managed to save the situation for the moment. We struggled into a few clothes, as opportunity permitted, while the air became more and more opaque with the dense, fine dust. I tried to tighten the windward side but found it impossible to do anything in the gale. Fortunately, Mohamed's little tent was well anchored with its back to the wind, so we called him to our assistance and the three of us struggled for fully two hours to keep the tent from going skyward. Two supported the bellying windward side with bent backs, while the third man gave full attention to keeping the poles from slipping

away entirely. At times it seemed as though we must lose, for sudden gusts made it almost impossible to support the weight of the exposed side. Beds, guns, cameras, everything, were thoroughly filled with dust, while our eyes, ears, noses, and mouths were choked.

The camel men seemed fairly snug in their little *yurt*, as they had earlier in the night piled bags of grain around the bottom, so we called a couple of them to help us move heavy boxes to the windward side of the tent. These more firmly anchored the bottom, and long ropes, passed around the projecting ends of the ridge-pole and securely anchored to other boxes and bags, relieved the strain and allowed us to cease supporting the still wildly flapping tent. During the storm our horses stampeded, but the camels seemed just to bow their heads and take the gale. Sometime before daylight the wind lessened and it began to snow.

When morning came we found everything in a beautiful mess. The whole camp was deep in dust. Dust had been driven into bags and boxes of our kit in an almost unbelievable manner. Clark and I spent much of the morning cleaning out beds, cameras and guns, though we made poor headway. It was the work of days and had to be done as we found time along the trail.

Except for the first hour or two beyond Chitai, where we passed through scattered cultivation, our way led for all of the march across a desert plain, cut by occasional shallow gullies. The wind storm and the buying of camel fodder had delayed the start until late in the afternoon, and the caravan

bashi said that we would have to travel most of the night. Clark and I, therefore, thought that it would be a good opportunity to try out the *johs*. After darkness fell, we halted the caravan, wrapped ourselves in our big goat-skin coats and climbed into the little houses slung on each side of the second camel. The *johs*, we found, were too short to allow us to be comfortable in any position, and the combination roll and pitch of the camel's stride was exceedingly unpleasant. In a couple of hours we had to stop the outfit and descend with a pure case of seasickness. It had grown cold before we left the *johs*, and because we had been so wedged into the beastly little houses that we could barely move, we had become thoroughly chilled. Altogether the experiment was distinctly not a success.

About ten o'clock the guide lost his bearings and headed almost exactly back toward our starting point. The fellow was half asleep on his horse and when awakened, admitted he could locate no landmarks until daylight. Though we had made but fifteen miles, we decided to camp on a patch of short dry grass, for there was little hope of making progress in the darkness.

The next morning we awoke to find that it had snowed nearly all night and that our beds and kit were thoroughly covered. The snow had blotted out any signs of a trail which might have been near. Fortunately, however, a Kazak rider came along and offered to lead us to the trail from which our guide had wandered while asleep. It proved to be about a mile east of camp.

The country was a perfect desert. Several groups

of riders were seen at a distance but of human habitations there were no signs. There was a trail of sorts, but it was very dim and when darkness came on, our guide promptly lost it again. After dark, drifting clouds allowed a few stars to show now and then, though none were visible long enough to help greatly as guides. We tried to follow an easterly course and I was able to use a luminous compass for checking the direction with excellent results. We came finally to an area of scattered woody bushes and near a patch of these we made camp, with melted snow our only water supply. The shrubs made a fair blaze once they were kindled, though they were difficult to ignite. It was three o'clock in the morning before camp was made and we had finished our rather sketchy supper of cold meat, bread, and coffee. By that time the temperature was down to 10° —a still, clear, cold night.

We estimated that we had come twenty-seven miles during the march of about eleven hours, most of it after dark. It was noticeable that as soon as night fell and the air became chill, the camels increased their stride and stepped along at a full two and one-half mile an hour gait, though they seldom travelled faster than two miles an hour during daylight.

Achun Bai, the caravan *bashi*, told us that it was customary for caravans to start late in the day and travel mostly by night to cover the necessary distance. This, he said, was because the camels, which could not be fed entirely on grain, would not graze in the dark, so had to be loosed at dawn for several hours. The men themselves dozed and slept on their donkeys and ponies while travelling.

Some five miles beyond our camp on the plain, we came upon a well amid a small patch of grass hummocks. Shallow tanks of earth had been built up about the shaft and into these, water from the well was dipped for the camels. The water-level was only about six feet below the surface. Two large caravans were camped nearby while their camels were indulging in an evidently welcome drink. The place seemed to be a regular stop, for trails radiated in every direction. We, however, halted only long enough to fill our water-casks, for it was a long way to Urga and cold weather warned us that winter was not far off.

During the march of about thirty miles we stopped at some low woody bushes and collected bunches of twigs for fuel so that, with our water casks, we would be independent of fuel and water. The camp that night was simply a level spot on an open plain where a sparse growth of grass gave grazing for the camels. Again we had a rather hasty supper of cold tinned beans and coffee, and rolled in at two-thirty in the morning.

During the night the sky cleared and when we awoke, it was a perfect morning, clear and not too cold. Behind us the Thian Shan with its fresh coat of snow, was tinted lovely pearly shades, while away back near Urunchi, fully a hundred miles from us, the Bogdo peaks showed clearly and appeared much closer than they really were.

While working about camp before the start, we discovered a lone gazelle out on the plain. It paid little attention to our camp or to the camels, which were grazing not far from it. I managed to walk to

within about two hundred yards of the animal, which looked up now and then but continued to feed each time I stopped. When I fired, it jumped and ran rapidly away. I had seen a splash of dust between the animal and me and knew that I had undershot. The gazelle soon lay down as though wounded, however, and when we went out a little later it was dead. An examination showed no bullet wound, but when we skinned the animal, bruises showed that a piece of rock had hit it in the throat. I had fired from a prone position, and we decided that my bullet had struck a rock and had driven fragments of it forward with sufficient force to kill the animal.

It was a young male and differed noticeably from the specimens obtained south of the Thian Shan. From its indistinct face markings, conformation of skull, and the locality, we decided that it belonged to the typical race of the goitered gazelle (*Gazella subgutturosa*), of which the Yarkand gazelle is a variant.

Later that day we saw several other small bands and were able to collect two does for the Museum's study series. One band allowed us to walk our horses to within a hundred and fifty yards before they took flight. All were noticeably less wild than the gazelle south of the mountains, doubtless because they were seldom disturbed in that uninhabited district. We saw numbers of gazelle during the first portion of our caravan journey and later in the Mongolian Altai on our way to Kobdo. Beyond Kobdo they were especially plentiful in the mountains just southeast of the Siberian border, though these latter were probably the Mongolian gazelle.

The range of the goitered gazelle (*Gazella subgutturosa*) extends from Asia Minor through Dzungaria into the eastern Gobi Desert. Unlike the Mongolian gazelle (*Gazella gutturosa*) which is a grassland animal, the goitered gazelle frequents desert tracts. Though we sometimes saw them in grassy areas, they were more often seen on barren *sais* where almost no vegetation appeared. On the back, their color was a light fawn which shaded into white on the legs and underbody. Except for the first young buck, all the gazelle that came under our observation were females and it was noticeable that they carried no horns.

That evening the guide again lost the trail among some low hills, so for a time Clark and I led. But among this area of hills and sand hummocks the trail could not be followed, so we camped on the plain with no fuel except a tiny sage-like growth. There was no snow at that point, but fortunately the men had packed a bagful at the last drifts so we had a little water with which to make coffee. The desert there was of hard-packed dust and fine sand, overlaid with a smooth layer of small broken stones.

Out on those plains where the "trails of men were dim and far apart," any moving object was of interest. A rider was like a ship at sea, an object of scrutiny and speculation. Once we passed a Kirghiz mounted on a camel and leading a second one, and his fleeced-lined coat and trousers, big boots, and conical fleeced-lined cap with long ear flaps and neck piece, made him fit well into the desert picture.

During the day there were amazing mirages. At times it looked as though the whole country were



CAMP AMONG FOOTHILLS OF MONGOLIAN ALTAI, DURING TREK FROM KUCHENGITZ INTO MONGOLIA.



MAKING CAMP IN THE SNOW, MONGOLIAN PLAINS.

flooded; again, large lakes with wooded islands and hilly, forested shores appeared in the distance. The mirage made everything take on fantastic shapes. A gazelle looked at times like a camel or even a giraffe, while the infrequent low bushes were magnified to the size of trees. One mirage showed a beautiful lake, with islands, bays and wooded shores and a couple of boats with white sails. I had always been a bit skeptical of such phenomena, but this was plainly seen without straining the imagination.

One afternoon we saw two animals trotting diagonally away from our line of march. They were not gazelle nor dogs, though they travelled with low-hung heads as dogs might. It was improbable that foxes would be so far out on the plain, so we decided that they were wolves. They kept a steady gait now and then swinging heads around to look in our direction. As the sides toward us were in shadow we could not tell their color though they looked rather dark.

Sometime after leaving one of our camps on the plains, we saw a band of fifteen gazelle about a mile away, and Mohamed asked me to shoot one for the caravan men. It was easy enough to approach within range and as soon as the animal dropped, Mohamed dashed forward and made *hallal* by cutting the throat. This Mohammedan ceremony is supposed to be done while the animal is alive so that death will come by bleeding. Without *hallal* properly made, no good Mohammedan may eat of the meat. In this case as in others, however, the animal was dead when the *hallal* was made, though the men seemed satisfied that the necessary propri-

eties had been observed and considered the meat quite fit for their use. We decided that Mohamed had probably not told them that the animal was dead, with the idea that what they did not know would not hurt them.

A region of low hills made an acceptable change from the continuous plain we had crossed for days, while a spring gave our camels a welcome variation from the snow with which they had been forced to slake their thirst. The spring was a mere seepage from the sand, but caravans had hollowed out a shallow pool which the flow kept partly filled with water. Mud brought out by the spring had built up a low broad cone to about six feet above the surrounding sand and in this the water sank so quickly that the damp area extended but a few feet on each side. We were able to obtain just enough of the unpleasant-looking liquid to fill our casks and water our animals. Around the spring, which our men said was called Kainar Bulak, were the tracks of many gazelle, and we heard that the wild horses of western Mongolia and Dzungaria (*Equus caballus przewalskii*) were sometimes seen by caravans approaching the place.

The next night found us again among hills, though for most of the march our way had led across a wide plain. Just after dark a sound of bells came from ahead and dim shapes of camels loomed out of the night. They proved to be a caravan of seventy-eight unladen camels bound west from Ulyasutai to Kuchengtze, so we knew that at least we were on the right route.

Next morning a snow-storm accompanied by a

biting wind made the labor of breaking camp doubly trying. The packing of frozen loads with frozen ropes on frozen camel saddles was bitterly cold work, but it was at last accomplished and the caravan strung out along the trail through the hills. Fortunately the gale was behind us, for the wind-driven snow would have been nearly unbearable to face. Even with the wind at our backs it was not a pleasant march.

The valley gradually ascended to a low divide of about five thousand feet. Along the valley floor there were shrubs and bushes during the whole march, though signs of water were lacking. That wild sheep had frequented the valley at some time was shown by several old heads, one of which measured $49\frac{1}{2}$ ". The horns formed an open spiral and were not nipped in at the bottom of the curl, as is typical of the *Ovis ammon* of the Altai.

Another unpleasant start in a snowstorm with everything frozen tried the tempers of both natives and sahibs the next day, and it was afternoon when the caravan finally took the trail. As usual, the first section was led by one of our two patient little donkeys which ambled quietly along with the lead rope of a camel tied to his saddle. These little beasts were truly remarkable. Clark likened the steady movement of their little legs to the quiet, business-like action of an electric motor. They never seemed tired, though sometimes, in addition to the weight of a man, they had to exert a considerable pull on the camel's lead-rope.

Usually camels have wooden pegs through their noses, and ropes fastened to one end of the pegs

act as halters. An interesting arrangement is what might be termed a "fuse" in each lead-rope, a light string which breaks before the strain becomes too severe on the animal's nose-peg. The animals seemed to realize that there was such a breakable connection, however, and took full advantage of the knowledge, with the result that frequent stops were necessary to repair broken "fuses." Once the packs of two camels slipped and the animals gave an exhibition of bucking that would have been the envy of any pack-horse. Their contortions were really wonderful, for a camel's build does not lend itself to grace. It took some time to collect the scattered packs and quiet the greatly offended animals.

During most of the day we crossed a plain which low clouds made appear endless, but late in the afternoon the clouds rose slightly and ahead we saw a range of high mountains extending far across our route. About ten o'clock that night we turned into the mountains and wound up a rocky valley to a camp-site in a small amphitheater, which showed unmistakable evidences of having been used as a sheep camp.

It was here that one of our camel-men stole a horse and deserted in the middle of the night, heading back toward Kuchengtze. The next morning we groused about it and called him a quitter, but in the light of later events we decided that, undoubtedly, he was the one member of our party with really good sense.

In the morning the caravan *bashi* and Mohamed came to me to say that we were entering Mongolia and that our silver should be packed in a single box

which we could take into our tent each night. We, however, decided that the silver was safer scattered about in various boxes of our stores and kit. I questioned the men and learned that they feared bandits and thieves. Further questioning brought out that the marauders came in bands of twenty or thirty by daylight and were quite ready to shoot on sight. I asked them more about the methods of Mongolian bandits, but they said that the bandits were not Mongols but Kazaks and that they were "very bad people." The Mongols, they said, were "good people." Then I asked them when and where we might expect the bandits, but received the reply that on this road we would not be molested, for it was only on the short, direct southern route to Urga that they operated. We marvelled at the Oriental mind, for it seemed that they had been worried and had spent half an hour talking about something which might have occurred had we taken the other road.

The Asiatic camel makes amazing and terrible sounds when being loaded or handled. He does not just bubble and snarl like his African brother, but groans, shrieks, and screams as though in mortal agony. Some of the sounds made by our camels were like those of human beings in deep distress, awful shrieks of pain and fear, which if heard at night would bring a cold sweat to the hearer. They groan and scream at the least provocation, when being made to kneel or rise, when being packed or unpacked, and often if anyone merely comes near them. When uttering these unearthly sounds, they open their wide mouths and display a pair of canine

teeth fully as large and wicked-looking as those of a lion. The camel-men seemed to pay little attention to these terrifying open jaws. Personally, however, I had a very healthy respect for the big fangs and gave a wide berth to any camel which opened its mouth at me. Every now and then when moving about the caravan, a shriek from just behind would make me jump for safety. I decided to adopt the slogan, "I'd walk a mile to get away from a camel."

On arrival at a point where we were to camp, the three sections of ten camels each were formed into parallel lines and the beasts made to kneel. Then packs were unloaded and a circular area to one side swept clean of snow. In this bare circle the thirty camels were picketed to ropes stretched along the ground, and there they knelt all night. Their sleeping position was with necks stretched out in front and heads resting on the ground. By morning they were often so covered with snow that the compact mass looked like a huge drift. But they seemed not to mind the cold or snow, for the deep wool of the Bactrian camel is a wonderful protection. We had wondered at the heavy tufts of hair on the upper forelegs and were interested in the way that these large bunches acted as protection when the camels knelt. It seemed that while nature had played several jokes on the camel and had certainly not made him beautiful, in some ways he was well equipped for his sphere of activity.

Above the old sheep camp in the amphitheater, the canyon gradually ascended and for the first few hours wound in a general northerly direction. Most of the rock was a hard dark green shale, though some of it

had a cleavage much like basalt. There were many pieces of quartz among the small broken fragments on the valley floor but we saw no quartz veins. We observed several flocks of hill partridge and noticed one wild sheep head and a horn which was either from a gazelle or a saiga antelope. Both Clark and I thought that it had probably belonged to the latter, as it differed somewhat from those of the gazelle we had seen.

We crossed a low divide and descended to a rolling plain where again there were clusters of low thorny bushes. Once more our guide lost the trail and we steered by the stars until it seemed best to make camp on the plain and wait for daylight. Wood had been brought along from the last bushes, so with the snow we were able to have fuel and water. While on the march the camel men frequently dozed in their saddles, sometimes leaning over so far that we expected them to fall. During night rides, one fellow always slept draped over his donkey like a sack of meal, with an arm and a leg hanging down on each side almost to the ground.

There were a few gazelle tracks in the snow and rabbit tracks were plentiful, but with those exceptions there seemed to be almost no life on the plain. Birds were seldom seen, though we noticed one road-runner near Kainar Bulak spring. Altogether, it was a barren, lifeless country, where a traveller who became lost might very easily die of hunger and thirst without ever being found. For days we saw no signs of recent caravans or of people. Evidently there was little travel by our route and no inhabitants in an area so bare even of sheep forage.

The hills we had crossed seemed an outlying ridge of the Altai, and our Russian map showed them rather loosely connected to the main mass somewhat eastward of our route. The trail we were following was not shown on the map and was apparently a little used short cut to the main Barkul-Ulyasutai route. Our Russian map was dated 1892, but in the main it seemed fairly accurate. We were able to plot our positions on it by taking prismatic bearings of our route and timing the fairly uniform rate of the caravan.

As we progressed further into Mongolia we began to notice a few more evidences of animal life. During one march we saw a hare which looked as big as a jack rabbit. It was so large that at first we took it for a fox. Numerous tracks of small rodents showed on the snow, though we never saw the animals themselves. Clark noticed a large wolf on a distant hill top, and once a flock of birds which looked like wild pigeons passed over us.

During one march through a region of low hills, we saw a band of five wild sheep, all rams. As nearly as we could tell, the animals were dark gray on the body, with lighter faces and some white about the muzzle. We also got an impression of light gray on the underside of the neck and on the chest, though our glimpses of them were somewhat fleeting. The horns were not the closely nipped-in type of *Ovis ammon* but had a more wide open spiral, somewhat similar to those of *Ovis poli*.

Cheerless as was much of the journey, our night marches were rather picturesque. Dim shapes of camels looming huge and grotesque against the snow

in the faint starlight, their bells clanging and booming out of the darkness and the occasional shouts of the camel men, usually ending in a falsetto note, all had a dreamlike unreality. The making of camp on the snow, too, with ghostly shapes of kneeling camels all about, their unearthly groans and shrieks when approached, the numbing fingers with which we fumbled at pack ropes and tent, and finally, camp made, our beds unrolled and a tiny fire of brush going in the middle of our big tent, with the top of the men's *yurt* glowing redly nearby and a compact dark spot showing where the kneeling camels were parked for the night; these were all parts of a picture of Asia which we felt privileged to see and experience.

And now comes the story of an experience of which neither Clark nor I are particularly proud. Contrary to what seems to be the popular impression, most of those who go into distant and little known lands in the interests of science—those who explore unknown districts or who collect specimens in remote places—are not impelled primarily by a desire for "adventure." I do not mean that they do not enjoy pitting themselves against and overcoming the difficulties that they may come upon. I mean that their purpose, when they set out, is to procure their information and their specimens with as little labor, as little danger, and as little "adventure" as is possible. I have heard a number of explorers say that if, by any chance, they have an "adventure" while they are in the field—if they find themselves facing a difficulty in which their lives and their work seem likely to be brought to an end—if they find themselves facing a situation that is dangerous and against

which they have not prepared themselves—then they have been guilty of a serious error. Should such conditions as these arise it is proof that they have been careless in making their plans and in working out the major details of their project.

An expedition may not expect to find itself in any danger at all, but preparations should be made to cover every possible contingency, so that, should a danger arise, the expedition will have within itself—whether because of plans or equipment or both—that which will eliminate or overcome the difficulty.

And now we found ourselves facing a dangerous situation in Mongolia—a situation that we had realized might possibly arise but against which we had been unable to prepare. Roy Andrews had not been able to enter Mongolia as he had planned. We had talked of that possibility and had decided, in case it arose, to return the way we had come. Once at Kashgar, however, when we finally got definite word from Andrews, we decided that if we made our way across the desert we would probably be able to obtain results sufficiently valuable to warrant some risk in the attempt. We were no longer in a position to secure the permits necessary to reasonably safe travel across Mongolia, but we felt that our Russian visas and our other papers would probably be sufficient, and that for the rest we would take the necessary chance. It seemed to us that a situation had arisen which warranted the risk that we knew we were taking.

Just before starting one morning, the caravan *bashi* and guide suggested that we circle around a Mongol post ahead, as they feared the Mongols might con-

fiscate the grain and rice in the caravan and leave us no horse or camel feed and no grain and rice for the men. It seemed that the post, named Ji-ji-ho, was on the main trail, though there was another route which led towards Ulyasutai without passing Ji-ji-ho. We told the men, however, that it would be better to go by the post for it seemed unlikely that the Mongols would bother us, though they might possibly rob an all-native caravan. Besides we thought it good policy to stop at the first post, have our meager credentials examined and possibly obtain a soldier or two as an escort to a larger post beyond. We had no expectation of serious trouble with the Mongols, even though we had no permits to enter the country.

That night's march was long, but owing to the fact that the guide again lost the trail and circled about in the dark, we found ourselves when daylight dawned, not over ten miles from our previous camp. Everyone was so tired that a day's halt was necessary to rest both animals and men. Another storm, which drove snow into our tent and covered the trail, again delayed the start until nearly noon, so that the day was well advanced when we approached the supposed vicinity of the Mongol post. The weather had grown colder during the last few days and each night the temperature went to about zero. The days, while not so cold as the nights, were always below freezing, and we knew that winter had arrived.

Our idea was to go as far as the post and camp for the night while I showed our credentials to the officer in charge and requested a guide for our onward journey; we had every expectation of being

able to leave on the day following our arrival. The caravan *bashi* rode ahead to endeavor to locate the place, and shortly after dark we came upon him sitting on his horse and looking down a slope to the right.

While we were questioning him, voices were heard below and three dark objects came up the hill. The first to approach was a wild-looking figure on horseback, a bareheaded Mongol who began to shout in a gruff voice at our party. What he said we never learned, but his tone gave us a feeling that all was not as well as it might be. He rode around among the camels and looked carefully at the packs. Clark and I thought it time to show ourselves and tell him that we were white men on our way to Ulyasutai and that we wished to find the post. So we called our guide and instructed him to tell the Mongol who we were. Clark took out his spotlight and we flashed it on ourselves to show the Mongol that we were not natives. The fellow blinked in the light, then lighted a match and by its flickering rays scrutinized us closely. He was a repulsive-looking individual with a badly scarred face and we were beginning to wonder if we had not met some bandits instead of Mongol soldiers, when several more horsemen came from different directions. We had been well surrounded without being aware of it. In the starlight, I could see that the newcomers wore peaked-topped helmets such as were worn by the Russian soldiers in the Pamirs, and when a light was thrown on them, red Bolshevik stars showed on the fronts. All carried rifles slung over their shoulders and rode active little Mongol ponies. Although they seemed



CAMELS AFTER AN ALL-NIGHT SNOW STORM. MONGOLIA.



THE MONGOL POST OF JI-JI-HO.

It was near this place that the Expedition was captured. Here it was, also, that five of the party, including both the leaders were tortured.

a wild, rough lot, the fact that they wore uniforms reassured us, and we felt certain that as soon as we got to the commanding officer and showed him who and what we were, everything would be all right. So we instructed our guide to tell them that we wished to go to the post with our whole caravan. They growled out some guttural reply which seemed to indicate that we were to turn down a steep slope to our right. On the way to the post they surrounded us and commented on our rifles in their saddle-scabbards. They seemed displeased with the fact that we were armed, though we had little opportunity to do more than notice their expressions.

The post, so far as we could see in the darkness, consisted of two *yurts*, and into one of these we were hurried by the soldiers. Inside the *yurt*, several savage-looking Mongols were seated around a small fire of *teyzak*. A single bowl of grease with a floating wick gave a dim light which but added to the gloom outside its feeble rays. At first there were about a dozen men in the *yurt*, though more came in later. Most of them were dressed in sheep-skin coats, double breasted and made with a waist similar to the pushtins worn by the Russian soldiers at Kizal Rabat Post in the Pamirs. One or two wore round, tightfitting, felt caps, but most of them had hooded felt helmets with red stars on the front. Some wore large felt boots with leather soles; others, the Mongol leather boot with toes turned upward. Around the *yurt* walls hung belts, sabers, rifles, and various articles of equipment. Many of these details we did not take in at first but we had ample opportunity to study them later.

Glowering looks met us as we entered. We tried to get over to the soldiers who and what we were, and meeting with little success, asked for the commanding officer. But we could get no satisfaction from them and it appeared that there was no officer present. It seemed best, however, to show our papers, so I produced them and Clark lighted one of our candle lanterns so that the soldiers could examine our credentials. One individual seemed to have a good deal to say, and though he appeared distinctly unfriendly, we passed our papers to him as the one who seemed to have the most authority. We endeavored to explain what the papers were and tried to emphasize the Russian permits and our letter to the Russian Consul in Kobdo. We said that we were Americans but it was quite evident that they had never heard of America, for the word seemed entirely unknown to them. We then told them that we were friends of the Russians, but made no impression on their stolidity. One of them suddenly asked if we had Mongol passports and when we said that we had not, but expected to get them through the Russian Consul at Ulyasutai, there were ugly looks and whisperings. It was about then that we began to sense trouble ahead. Several of them went out. We had received no satisfaction, but thought it best to pretend that we felt sure of ourselves, though we were far from it. One man was left in the *yurt* with the five of us, Clark and me, Mohamed, Tokt the guide, and Achun the caravan *bashi*. We supposed that at least we would be free to make camp, so when the caravan was heard coming along outside, we arose and moved toward the

door. Mohamed, who was nearer the entrance, went first. As he approached the door, the Mongol standing by it struck him in the face and knocked him down. Then he growled some order and pointed to the floor, which probably meant that we were to sit down. The fact that we did not do so at once may have been one reason for what followed. We did not realize, however, what sort of savages we had met and still had a bit of the "sahib" feeling. It did not remain long.

The guard shouted and at once the whole crowd poured into the *yurt*, several carrying ropes. Before we could realize what was happening, we were each set upon by overwhelming numbers and went to the ground under a mass of Mongols. In calmer moments we would have realized that struggle was useless, but at the time, thought was suspended and we fought our assailants as well as we could in the crowded *yurt*. But we had no chance, and our struggles only served to infuriate them. As I lay on my back I saw a Mongol take a vessel of boiling water from the fire and start to pour it on my face. I rolled my head and closed my eyes. Fortunately none of the water struck my face.

We ceased the unequal and useless struggle and lay back, while they forced our arms in front of us and passed ropes around our crossed wrists. Then we were jerked to a sitting position and the ropes tightened. Men seated themselves on each side of us and with feet braced against our wrists, jerked the ropes as tightly as they could. The pain was rather awful. I thought I felt my right wrist go and called to Clark that it was broken. But, for-

unately, what I felt must have been only the bones grating together from the pressure, for the wrist proved unbroken. During the struggle, the back of my right hand was torn by the rope and this was very painful. When they had us bound, the ropes were thoroughly soaked with water, so that as they dried, they would draw even tighter. All the Mongols yelled in a sort of excited fury and each seemed anxious to get in on the show.

Completely trussed-up, we were roughly thrown on our backs, our pockets turned inside out, and our clothes torn open while they searched us. They were not gentle about it, either, but rolled us over and over on the ground. It was a most unpleasant proceeding, for with each roll, our hands and arms received a hard jerk from the rope which stretched between us. During the search, one fellow kept his foot on my head.

When the fracas started Clark was smoking a pipe, and this a Mongol knocked from his mouth clear across the *yurt*. I had a piece of gum in my mouth but fortunately they did not notice it; before I had finished with it, that was the hardest-chewed piece of gum in history. Everything was taken from our pockets and tossed across the *yurt*, where it was tied up in one of our handkerchiefs. One fellow took my glasses from my face and started to throw them in with the rest of the plunder, but when Clark and I made sounds and signs indicative of protest, to our great surprise he put them back. It was the first sign of humanity shown. When we had been searched twice we were permitted to sit up, but were not allowed to warm our fast-numbing hands over the

fire. I tried it a couple of times, but on each occasion a big savage struck me in the face and knocked me back.

Our men had been tied up at the same time we were and were badly beaten in the operation. Mohamed received a worse pounding than the others and his cries of pain were not pleasant to hear. I said to Clark that I hoped they would kill him quickly, so that he would not suffer long. The beating of our men was pure savagery on the part of the Mongols, for they did not struggle when being tied.

That we were in a very serious position there could be no doubt. For some reason they did not try to prevent our speaking together, so we were able to discuss matters. I asked Mohamed if he had learned anything from the interpreter. Mohamed, a bit dazed, moaned and said that the interpreter had over-heard the Mongols saying that we were to be shot, though he had not learned whether it was to be at once or in the morning. The only thing we could do, lacking some break in our favor, was to determine to take what might come as stoically as possible, and not give our captors the satisfaction of seeing us weaken. It was quite evident that as matters stood, we could expect no mercy. Clark and I talked now and then, but not very hopefully, for there seemed little chance of our coming out alive. Each promised the other that if one escaped by some miracle, he would look after the other's wife. We discussed many things unreservedly, for barriers are down at such times and I believe that we got to know each other better during those hours

of captivity than we had in the whole previous eight months.

By and by a newcomer entered the *yurt*. He was apparently not a soldier, for he was dressed in a blue coat instead of the usual sheepskin. This fellow talked with Mohamed in low tones and I could catch enough to gather that Mohamed was explaining who we were, where we came from, and what we had been doing, and emphasizing the fact that we were friends of the Russians. The man seemed interested and understanding; his attitude was very different from that of the soldiers. At first we thought that he might be their officer but Mohamed told us that he was just a Mongol civilian who could speak Chinese and was thereby able to converse directly with Mohamed. He went out after a while, and we were left to our rather gloomy thoughts, with several armed soldiers standing guard over us.

How long they left us in the *yurt*, we had no means of knowing, but it must have been over an hour. We were becoming more and more certain that the end was close, and we discussed it frankly. The things which interested me most were: Firstly, the terrible wait and anxiety which Mrs. Morden must go through when we did not arrive, and the equally awful period that would be spent in determining what had happened to us; and secondly, the hope that the Mongols would make it quick and short and not drag the affair out. It seemed queer, but neither Clark nor I were particularly frightened at the thought of being shot. We wondered how long we could stand the probable torture. We were glad that we both had life insurance. These and other

rather disconnected thoughts passed through our minds; but except for a distinct dread of torture, both of us agreed that we felt no actual fear of death.

After a seeming age, while our hands grew more and more swollen and painful, several of the crowd entered and motioned us out through the *yurt* door. Our three men went first, then Clark and I followed with a rope dragging between our bound hands. In the starlight we saw several soldiers with their rifles and it seemed certain that we were being led out to a firing squad. It was then that Clark and I said good-bye to each other.

We were led several yards to the right, expecting to be halted any moment and shot. A dim shape appeared vaguely, looming in the darkness, proved to be a small caravan tent, similar to our own. We were thrust inside the entrance and again thrown to the ground. Some one put our big dog-skin helmets on our heads and these came so far down over our eyes that we were practically blindfolded. Feet moving about were all that we could see except when now and then we were able to shake the caps back on our heads. In a few minutes we were dragged to the tent pole at the rear and, in a sitting position, had our arms trussed to the pole by a rope which passed around the two of us. Clark's bound hands were tied to one of his legs and a Mongol started to do the same to me, but finding the loose end of my rope too short, let it go. After we were tied so tightly that we could not move, they again pushed our big caps low on our heads and threw a few sheepskins over our legs. It was away below freezing in the tent—how cold we did not know but cer-

tainly close to zero. Our three men were brought into the tent, but though still bound they were not tied to a post. Armed soldiers were constantly moving about, though we could only see their feet and the butts of their rifles.

It looked as if we were there for the night. In that case, even should we live until morning, which was possible but hardly probable, there was no chance that we would ever again have the use of our hands, even though they did not freeze—which they probably would. With the circulation in them entirely stopped, they would undoubtedly be paralyzed by morning. That was the worst thought we had. We were hundreds of miles from possible medical attention, and even though we were finally to be released, there seemed nothing ahead but a most unpleasant, lingering death by blood poisoning from our hands.

Now and then a soldier came to feel our hands, though we did not understand at the time why the Mongols should feel any solicitude regarding them. Our only thought was that they might know how long the hands could remain bound before numbness would mercifully intervene and the pain no longer be felt. At any rate, though we were in too much agony to realize it, their periodical inspections were a hopeful sign. Another thing, which meant little to us at the time, was that they covered our feet and legs with sheepskins. We thought that it simply meant that we were to be tied up in that position until morning, in which case our hands would be lost and little else would matter.

During the first part of that period, which was

probably something over an hour but seemed endless, we hoped that they might loosen our bonds, but as time passed we were in too much pain even to hope. So far as we could tell, our hands were dead. And yet, though we could not move our fingers and there was no sensation in our hands when the Mongols touched them, they burned as though scalded, while sudden shooting pains now and then flashed through them and up our wrists and arms. There was a dim light in the tent, and by this light I tried to see my hands each time the soldier examined them, but could only discern that they were terribly swollen and badly out of shape.

The last time the man felt our hands, he must have discovered that mine had reached the limit, for he said something to the others and they at once began to untie us. He tried to loosen my rope but it was so tight that another man had to assist him. When they finally took it off, I felt a surge of blood down the wrists and into the hands. I had expected a rush of pain when the rope was loosened, but it was not particularly painful; on the contrary, it was almost pleasant. The last moment or two before the ropes were taken off was about the hardest, for I was fearful of the condition in which my hands would be found.

The removal of our bonds was like an unexpected present. One moment we had been without hope; the next it seemed that though eventually we might be shot, we were at least not to be tortured to death. We were probably closer to fainting just then than at any other time. Before, we had rather hoped that we might lose consciousness but were afraid

that if we fainted while there was any hope of saving our hands, circulation might die down and the hands freeze.

After the soldiers had freed our hands, they gave us our big goatskin coats. Then, seated back to back, we were again bound to the post by ropes which passed about our arms and bodies. Our three men were tied by ropes about their arms but were otherwise not bound. Sheepskins over and under us and tucked about our legs and feet made us fairly comfortable, but we were so limp by then that we could only lie back and rest. We had eaten nothing since early morning and the strain of the last two or three hours had so weakened us that we could barely keep our senses. After awhile, the Mongols brought us cups of their tea, a very unpleasant and rather dirty concoction made of black tea and salt. But it was hot, so we gulped it down. Shortly afterward, we were agreeably surprised to have them put a couple of our own cigarettes in our mouths and light them for us. I verily believe that that cigarette tasted better than any other I ever smoked.

Altogether, the Mongol's sudden change from pure savagery to more humane treatment was bewildering. We talked it over but could not understand their motives, either for the original outburst of ferocity or the later change. At all events for the present at least our hands had been saved, and the night ahead promised to be less unpleasant than we had expected.

Parts of our hands were still painful, though other portions were numb; in fact, bruised nerves in the backs of our hands caused us trouble for many days.

During our incarceration, too, the wound on the back of my right hand became infected and it was over a month before I finally got it under control.

All night soldiers constantly came into the tent, squatted by us and tried to talk to us. A candle was kept burning and in the dim light the Mongols scrutinized us, felt our clothing and generally satisfied their curiosity. A soldier was always seated at the door with his rifle across his knees. One guard amused himself, now and then, by aiming his rifle at one of us, curling his finger suggestively around the trigger and holding the position several seconds. He seemed thoroughly to enjoy the performance.

Toward morning, Clark and I managed to slip our ropes down the post until we could lie partly stretched out and thereby ease the strain on our backs. We even slept. Our hands remained very lame and my right one was badly swollen where the rope had burned it. The night seemed endless, for we were still in suspense regarding the final outcome. With no means of keeping track of the time, we could only watch the tiny bit of sky visible through the tent door and hope to see it become gray with the dawn.

Sometime after daylight, we were taken outside by twos with our arms still bound, while soldiers stood guard with rifles at the ready. Where they expected us to run to in that open country with our arms tied, we never understood, but each time any of us were allowed out for a moment, one or more soldiers always had their rifles pointed in our direction. Had we not been so uncertain as to our ultimate fate, it would have been ludicrous.

Later in the morning, two of our caravan men, who had not been molested and had made camp near the post, were allowed to bring us some of their tea and hard bread. The tea, while not good, was far ahead of the salty Mongol variety, and by soaking the bread, we could soften the latter enough to obtain a little much needed nourishment.

Sometime during the morning Mohamed was taken out of the tent. Shortly afterward we heard the reports of two shots. Expected though that sound had been it came as a shock, and I remarked to Clark, "There goes poor Mohamed; I wonder who's next?" For two hours we waited in suspense, and then, to our amazement, Mohamed was led back to the tent and we learned that he had been taken out to open our boxes, so that the soldiers could examine the contents. The shots had been fired by one of the men who was experimenting with my automatic pistol.

Late in the afternoon a rather snappy-looking Mongol rode up. This chap proved to be the officer of the post and seemed a much higher type than the soldiers we had seen. His long coat was of silk, lined with sheepskin and tied with a yellow sash. Mongol boots with turned-up toes and fancy stitching of red and green, a closely fitted leather cap, and sheepskin trousers completed his clothing, while a big Mauser automatic pistol hung in its wooden holster at his side. With him came a young Mongol who spoke Chanto and acted as interpreter.

About an hour after the officer's arrival we were taken from the tent and led to the *yurt*, where an examination was held. Our papers, which had been



MONGOL SOLDIERS OF THE POST AT JI-JI-HO.

The tall man was especially active while the members of the Expedition were being tortured.



MONGOL SOLDIER OF JI-JI-HO POST.

taken from us with everything else, were opened and examined, though it was apparent that the officer could not read them. He seemed to have control of the situation, however, and the soldiers did not have so much to say as formerly. We found our arms, field glasses, and other articles of kit all piled in the *yurt*. After the officer had asked us a number of questions, we were taken back to the tent, still bound. Nothing was told us nor could we get any information as to what might happen. Our interpreter, who, we had understood, could speak Mongol, proved to be almost worthless, for what little he could speak originally he seemed unable to remember in his fright. Once he told us that soldiers had been sent back along our trail to learn if we were not the advance party of a larger invading force. All sorts of stories were told us by this fellow, who was in a blue funk. Probably none of them were true, though anything seemed possible at the time. The Mongols gave us absolutely no information but treated our inquiries with insolent indifference.

Shortly after we again entered our prison tent, two big bowls of rice and meat were brought in by one of our caravan men. We had had practically no food since breakfast the day before, so the whole five of us pitched into the rice. Clark and I ate in native fashion, and squatted by the big iron bowl with the men, dipped our hands into the mess, and squeezed the sticky rice into balls. With our arms still tied above the elbows, it was impossible to reach our mouths with our hands, so we threw the balls of rice at our mouths and inhaled deeply to get as much as possible of the precious food. It would

have made a wonderful picture: we two white men, three Chantos and a couple of Mongols, all feeding noisily in the dimly lighted, filthy tent. It was getting rather close to nature, we thought—too close, in fact—but the rice was good and strengthened us considerably.

Just before dark we were again called out, this time to open the boxes of our kit while the officer looked over our belongings. Fortunately, we managed to open boxes of food first, and though tins of butter and coffee had to be opened to prove that they were not ammunition, and one roll of motion picture film had to be sacrificed to show that its suspicious-looking round can did not contain munitions, the inspection went off fairly well. Our money was not touched, though we had feared it might be confiscated at once. During the inspection a crowd of curious soldiers fingered everything and constantly pushed us out of the way so that they might see what was going on.

Our bags already had been opened and our arms and ammunition, of course, had been confiscated. During the day our two pistols had been proudly worn by various soldiers, who took a huge delight in displaying them to us. The officer, however, took these to himself and appeared wearing his own Mauser and both of our pistols.

That night was even colder, and as the Mongols had taken away many of the sheepskins for their own use, we were so chilled that we got little sleep. Much of the time we lay and "shivered ourselves warm" as a dog sometimes does. It had been a bit of good fortune that when captured we both

happened to be wearing our felt boots, for had we been wearing shoes, we would have doubtless frozen our feet, as there would have been slight chance of the Mongols allowing us to get our heavy boots from the caravan. All that night my injured hand throbbed and ached, and by morning it was badly swollen and looked very angry.

About seven o'clock, the commander came in and looked us over; shortly after that our ropes were removed and we were ordered to go to our camels and make camp. It was a great relief to be out in the air and able to move about again. We put up our tent and attempted the reorganization of our much scattered belongings. The officer again made an inspection of our kit and all day we were bothered by soldiers, who sat about our tent and followed us everywhere.

During the day we were called into the main *yurt* where the officer again went through our saddle bags and papers. Some small articles were given back to us, though most of our possessions, such as field glasses, compasses, thermometers, and lenses for our motion picture camera, were not returned until later. It was interesting that the Mongols seemed anxious to have their photographs taken. We doubted whether they knew what the cameras were, but they seemed to like to stand in front of the buzzing Eyemo and to hear the shutters of our hand cameras click.

Our experiences in the *yurt* and prison-tent began to seem almost unreal and dream-like, the sort of thing one reads about but which makes little impression because it is something which could never

actually happen. My infected hand, however, which at last I had been able to bandage, was a constant reminder that something unusual had occurred. After we were released, the Mongols were not actively unfriendly, although they seemed to feel that we were their inferiors and felt free to come into our tent from time to time and demand cigarettes.

Clark and I discussed the probable reasons for our capture and rough treatment and the apparent change of heart on the part of the Mongols which had doubtless saved our lives. As near as we could determine, they had thought that we were spies, though of what nationality we could not decide. At any rate, they were suspicious of us and it seemed as though their code called for spies to be executed first and investigated afterward. We decided that the civilian Mongol, who had talked in Chinese with Mohamed, had learned that we were friends of the Russians and had persuaded the soldiers to await the arrival of the officer before executing us. The officer, with more intelligence and a greater feeling of responsibility than the soldiers, had decided that, for the present at least, we were not dangerous, and had thought it best to await the result of our future examination at the hands of his superiors. Subsequent events bore out our deductions regarding their attitude toward us but even then we were at a loss to understand their ferocity and the seemingly needless agony of the first few hours. Months later, however, I learned from Roy Andrews that the binding of a prisoner's hands until circulation is stopped, is a recognized form of torture among the Mongols. He said that he had seen it practised in the jails at

Urga. Clark and I can testify that it is a most effective method.

After a cold but fairly comfortable night in our own sleeping bags we felt a little better. The commander and a soldier left early with our arms, ammunition and field glasses on a pack horse, leaving orders for us to follow with an escort. All that we could learn was that we were going to another post where there was an officer of higher rank.

There was some trouble in getting the camels across a partly frozen stream near the post, but this once negotiated, the caravan strung out across a wide plain between broken hills. Except for a single stop to pick some brush for fuel, we travelled steadily all day. Once, in passing some low hills, we heard a shot, and it was a commentary on the state of our nerves that we were startled and immediately swung our horses to the far side of the caravan.

Shortly after dark our escort led us down into a wide draw. The sound of dogs indicated that habitations were near and shortly afterward we made out the dim shape of a single *yurt*. We noticed that our escort took pains to have the whole caravan together as we approached. A single Mongol rode out to meet us, shouted gruff orders to our men, and when one of them spoke to him, struck the man viciously with a whip. Altogether, it was not a particularly pleasant reception.

As we were ordered to do, we made camp near the *yurt* and except for a visit from the officer, we were left in comparative peace. We had a supper of cold tinned beans around a smoky fire of *teyzak* and went early to bed to keep warm.

Several Mongols came into our tent during the morning of the following day but as most of them were civilians and more decent than the soldiers, we rather welcomed them. When they entered, they handed us their little glass snuff bottles, which is the usual Mongol courtesy on meeting. We were supposed to pass our pipes to them for a puff but as I had no pipe I gave them cigarettes. These they understood and smoked in their little long-stemmed, metal-bowled pipes. All of our morning's visitors seemed friendly and shook hands and greeted us with "Sai-yu-jenu," which meant "hello" or something of the sort. It was a relief to have just these rather friendly old savages sitting about our tent, instead of the scowling, imperious soldiers we had had for so long. Where these chaps came from was a mystery, but though we had seen no signs of people when travelling, there were doubtless a few *yurts* scattered about among the hills.

No information was given us until late in the morning, when we were ordered to break camp and proceed to another post about five miles south. It was dark before we reached the post, a collection of eight or ten *yurts* in a narrow gully which supported a growth of coarse still grass. This grass, with a considerable area of light thin bushes and a nearby stream, seemed the chief reasons for the location of the post.

As we approached, several dark forms turned out to be a squad of soldiers who, with rifles at the ready, showed us a camp site near a small guard-tent. In front of this tent there was a soldier looking in our direction; we were never without this sentry while we were there.

The night was very cold, the coldest we had had so far. While we were eating a rather chilly breakfast, another blue-clad, be-pistoled Mongol officer entered the tent, seated himself and looked us over without a word. He seemed fairly friendly and though we did not know who he was, his attitude gave us a vague hope.

Shortly after breakfast a large new *yurt* was carried over by several soldiers and we were given to understand that it was for our use. This was a decided improvement and we at once moved in. There was a small sheet-iron stove as part of the fittings of the *yurt*, and a fire in this soon heated the place, though the chill came back immediately the fire died out. We put together our chairs and table, more to impress the Mongols than for real use. Various soldiers constantly came in, so that at no time were we alone for even a few moments.

By the middle of the morning it seemed time for us to request an interview with the commander of the post, the name of which we had learned was Uptsun. So we sent a message by Mohamed and soon received an affirmative answer. The *yamen* was one of the nearer *yurts*, distinguished by a pole from which drooped a tangled mass of very dirty red and yellow rags. Evidently the colors had been uncased for our benefit. Inside the *yurt* a big bowl of meat was stewing over a stove, with the fire tended by a Mongol servant. Around the walls, numerous boxes were covered with *numdahs* and coarse carpets. There were several Mongols in the *yurt* and two of them were indicated to us as officers, though neither was in anything like a uniform. One,

a most unpleasant-looking fellow with deeply pock-marked face, seemed to be the civil officer. The other, the man who had earlier come to our tent, was the military commander. Seated around the *yurt* were two or three other Mongols and one of these, with a shaven forehead and a queue, was probably the scribe, as he was writing on thin rice-paper with a Chinese brush-pen. No one appeared particularly glad to see us.

We all crowded into the *yurt* and Clark and I were given seats on a box. Our passports and other papers had been returned to us before leaving Ji-ji-ho, so we produced them and hoped that someone could read Russian. No one could, however, though they listened quietly to our story as told through Mohamed and a young Mongol who could understand Chanto.

We had a few photographs which had been developed in Urumchi and these created considerable interest. In looking at the pictures the Mongols squinted through a cupped-hand held to one eye; when we tried it we found that it gave a rather stereoscopic effect to the flat pictures.

At last the civil officer delivered a long oration, which sounded as though it might be a death sentence. When he finished, Mohamed told us that we were to go under guard to Kobdo, the headquarters of that particular district of Mongolia. Mohamed and our men seemed thoroughly disconsolate over the prospect and begged us to ask that we be allowed to go to Ulyasutai instead, or even to return to Chinese territory. These requests were curtly refused. The officer went on to say that Clark and I

with Mohamed were to go rapidly to Kobdo with some soldiers, while our caravan was to come along more slowly. We were told that the caravan would take ten to twelve days for the journey but that we were to make it with the soldiers in three, as we would use relays of horses and stop at Mongol *yurts* along the way. The idea did not appeal to us, for not only would it be a terribly hard journey but we were very certain that, once out of our sight, our caravan would never arrive intact. It seemed that we were once more in a situation of serious possibilities and quite likely to lose our valuable film. We determined to do everything possible to obtain our captors' permission to accompany the caravan, but before making our request, it seemed a good plan to prepare the ground. We sent Mohamed to our *yurt* to bring over our chairs and folding table. These we presented to the Mongol officers, who received them with evident pleasure and seated themselves with broad grins. Then we made our request to be allowed to accompany our caravan on the journey to Kobdo. There ensued a considerable discussion between the two chiefs, but they graciously gave us permission.

During the afternoon the officers, assisted by many peering soldiers, made an inspection of our baggage. The inspectors paid little attention to our silver and really seemed more curious than anything else. When they finished, we started to repack and were about through when two more Mongols arrived and demanded to see the contents of all our boxes and bags. We thought that they were just a couple who had missed the show, so appealed to the officers

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for protection against their demands. But we finally learned that the men were from the Customs Department, called in Mongolia the "Gali-Yamen," and that there was nothing for us to do but open everything again. They began to list everything and it looked as though we were in for a long session. When it got dark, however, they said that we must wait until morning. That looked like another day's delay, so we begged them to fix a flat sum for the whole outfit and let us get away early next day. This they refused to do. We were told that they must see everything but that we would have to pay duty only on such articles as were for sale. They said that they would come around early in the morning so that we might still be able to start that day.

During the day most of the articles taken from us at Ji-ji-ho were returned, though we had to ask for many of them. Our aneroid barometers and my prismatic compass were the hardest to retrieve. It did not appear that the Mongols knew what they were at all; they just struck the soldiers as pretty toys. A few articles were never recovered. Some of these, which included a pocket knife and a water-chlorinator, were no great loss, but we greatly missed our heavy woollen gloves and the lack of them caused us much discomfort. Several straps had been cut from our saddles by the soldiers at Ji-ji-ho, a bit of pure vandalism, of course. But altogether we had come out of the mix-up better than we had any right to expect.

CHAPTER XII

THE GOOD SAMARITAN OF KOBDO

TRUE to their promise, the Mongol customs men came early the next morning and continued their inspection. We were glad to get on with it, though zero temperature made the opening of boxes and bags bitterly cold work, especially as we needed ungloved hands for much of it. The Mongols carefully examined our food supplies and the various boxes of our kit, and were particularly curious over the contents in our medicine case. Fortunately we were able to steer them away from the tins of film. We were afraid at first that our silver might be confiscated and also that our several pairs of field glasses and telescopes might arouse suspicion, but they passed the glasses with scarcely a comment, and apparently considered our supply of silver dollars and bullion nothing unusual. Much of their thoroughness seemed due to curiosity, for they pawed especially over articles which were strange to them. A crowd of soldiers gathered to watch the inspection and thoroughly enjoyed the whole proceeding.

At last, after much conversation, they told us that we could pack and that no duty would be required. We were naturally both pleased and surprised. The fact that the night before they had said that duty

would be levied only on articles for sale and had refused to settle for a flat sum, together with the way they passed everything in the morning, gave us a somewhat better opinion of the Mongol Government. The issue of a receipt to the caravan *bashi* for duty charged on his camels and grain also indicated methodical procedure. Those in authority, in the Customs Department at least, seemed to know their jobs and did not appear to be common grafters.

It was noon before we were ready to start on our long trek to Kobdo and could go over to pay our respects to the two officers to whom we had given the camp chairs the day before. We found them proudly occupying the chairs, though they arose as we entered and offered us their seats of honor. They seemed friendly enough but we were anxious to be on our way and did not linger over farewells. While exceedingly glad not to be forced to undergo further inquisition for the present, we were still thoroughly resentful over our experiences at Ji-ji-ho and over the fact that for no reason except suspicion, we were being sent off at nearly right angles to the direction we wished to take. Furthermore, this forced journey permanently eliminated our plan to obtain specimens of the saiga antelope. One of our chief reasons for being in that country at all was a desire to secure these specimens, but now the plan had to be abandoned, for our route to Kobdo would not take us near where the saiga was to be found.

Our men told us that the journey from Uptsun to Kobdo was to be over a long and difficult route which was unused by camel caravans in winter and



THE CAMELS OF THE EXPEDITION LEAVING JI-PI-HO.



EXPEDITION'S CARAVAN AT MONGOL YURT CAMP BETWEEN JI-JI-HO AND KOHDO. MONGOLIA.

they all seemed to dread the trip. So, though we could not entirely blame the Mongol officers for playing safe, as they were doing, it was with far from pleasant anticipations that we left Uptsun on November 12th.

For the first five or six hours a dim trail led due north across wide, sweeping plains toward a gap in a range of reddish mountains. For the last four hours we wound up a rocky valley over a rough trail which darkness made even more difficult, since our late start made it necessary to travel well into the night.

A young Mongol, who had been sent to act as guide, rode ahead of the caravan, but the two young soldiers who did escort duty watched us very closely and kept their horses alongside ours. It annoyed us at first but in time we became used to them and they really turned out rather decent lads, who did what they could to make the journey less uncomfortable. It was bitterly cold—so cold that we found it impossible to remain in the saddle for more than a short time. When we had reached the point of being nearly frozen we would try walking in order to speed up our circulation. That was hard too, for our loose felt boots were ill adapted to the trail. We were pretty tired when, after nine hours of this sort of travel, we suddenly smelled wood smoke, and saw vaguely in the night ahead, the dim bulk of a Mongol *yurt*. There was a cheery glow from the hole in the roof and light flashed momentarily as someone went in or out. It was a very welcome sight.

We turned off the trail and a Mongol showed our

men a cleared space where our tent and *yurt* could go. Clark and I entered the standing *yurt*, rather hoping we might be able to sleep in it, but there were half a dozen Mongols ahead of us and every inch of space was taken. We stayed long enough, however, to thaw out a bit and to work the chunks of ice out of our beards. The accumulation of ice on eyelashes and faces, during the very cold weather, was most disagreeable; there were times when so much ice formed on our mustaches and beards that we could hardly open our mouths. When our tent was up, a fire of the branches of some sort of stunted cedar made it fairly comfortable, though the thermometer outside stood exactly at zero. The finding of the Mongol *yurt* had been a surprise, but we were told that we would find *yurts* placed at intervals of about twenty-five miles all along the route to Kobdo. They seemed to be in the nature of rest houses, and we judged them to be military shelters, for they were in constant use by Mongol soldiers.

It was nearly ten thirty when the caravan finally took the trail next morning and two Mongols from the *yurt* came along with us. One was a youngster mounted on a brown and very woolly riding camel, which he handled as one would a good horse. It was a magnificent beast and its two humps made excellent natural additions to the high peaked little Mongol saddle, which fitted nicely between them. This lad came the whole march with us and helped the soldiers assist the camel men over the snow passes crossed during that stage.

The first three or four miles up a rocky valley were fairly easy, although snow in places caused the camels

to slip rather badly. Then began a series of four snow-covered divides, each close to nine thousand feet. The first two were crossed in daylight, and though one or two camels came to grief in the drifts, they were got to their feet without great difficulty. But after crossing the third summit, when night had already fallen, a snow covered hillside had to be traversed, and there our real trouble began. There was smooth ice under the snow and camels fell continually. Several of them slid down hills and had to be unloaded before they could climb back up to the trail. The camels outdid themselves with their shrieks and groans. Screams, peculiarly human in their quality, rent the air as the ungainly beasts went down with their long legs sprawling in every direction. Everybody worked hard in the cold night air, while a moon that threatened to disappear every moment into a heavy cloud bank, lent a silvery light to the wintry scene. After about two hours of struggle, all the caravan was piloted across the treacherous bit and we thought our troubles were over. A long snow slope to the fourth and last pass was easy enough, though the tired camels made slow progress. Once over the top, a steep descent of drifted snow led down into a big basin where mountains showed dimly beyond.

The moon had set and it was only by faint starlight that we tackled the descent. Almost at once difficulties overtook us, as practically all the thirty camels fell, many of them several times. Some were so tired by that time that they could not rise until unpacked. There was a heavy crust which was strong enough to bear a man, but a recent light

snow had made it so slippery that one could not stand on the steep slope with felt boots. In the dim light we could not see where the crust was broken and we frequently plunged headlong in the drifts. To add to our discomfort, a bitter wind increased in severity until it was almost impossible to face.

When I turned over to the caravan *bashi* a camel which I had vainly tried to help to its feet, I found camels down everywhere. The whole caravan had simply disintegrated into single camels, a few still on their feet but most either kneeling or lying flat in the snow. We finally managed to get them to their feet and led them down one by one until a nucleus was formed on a bit of windswept bare ground. One of the soldiers and a camel man got this lot together, and I went with them to haze along one or two whose broken lead-ropes made it impossible to fasten them to the others. There was a long, cold trek of about four miles toward some rocks ahead of us.

When I finally reached a Mongol *yurt* close to the rocks, I looked inside, hoping to find a warm place to sleep. But every inch was occupied by nearly a dozen sleeping Mongols, so I went outside, wrapped my big coat about me and went to sleep on a pile of snow in the lee of the *yurt*, to awake about an hour later, thoroughly chilled. The rest of the caravan straggled in at intervals. After Clark came, he and I went into the *yurt* for about half an hour to wait for daylight, which was just showing as he arrived.

The sunrise was glorious, though we were too tired

to appreciate it. At first a steely gray light disclosed distant mountains across a wide basin where a large lake showed coldly white. Then came rose tints, which changed and deepened into red on the snow ranges, until the whole world seemed afire. Then the sunlight streamed across that strangely wild setting but only to accentuate the cold.

All men and animals were so tired when they arrived that it was out of the question to move that day. In addition, it was discovered that a couple of boxes had been left in the snow on the pass, so two men and a camel went back for them. There was nothing to do but exercise patience, and to try to get them moving earlier next morning. We learned that the distant lake was called Hulum Nor and that the Mongol camp was known by the same name.

A closer inspection of the camp in daylight was not inspiring. A dirty *yurt* and an even dirtier tent were the main features, unless one included in the inventory a very dead but fortunately frozen donkey and a dying horse. We found a level and moderately clean place for our tent in the lee of a cliff, where we used rocks instead of pegs for anchors. One useful feature of this campsite was the quantity of *teyzak* available, though most of it was so damp and frozen that we were thoroughly "smoke tanned." The usual Mongols squatted in our tent all day; I presume we might have chased them out but we did not feel that our position was strong enough for us to become too "sahib-ish." Besides, we were well used to them by that time. One chap offered me a Mexican dollar for my red Khotan *numdah* and when I smiled and refused, he raised it to two dollars.

I had often tried to buy articles from natives but had never before had them try to buy from me.

There was one Russian-speaking Mongol at the camp who seemed to be a person of consequence. He was somewhat more intelligent looking than the average soldier, though he was wearing the Mongol army cap and the usual goat-skin coat. This chap seemed to understand the sort of work we had been doing, and said that there were sheep to be found in the mountains nearby, doubtless the *Ovis ammon* of the Altai.

The Russian-speaking chap proudly displayed a cheap English watch, while another insisted on sharpening our pencils with a pocket sharpener which he drew from his tobacco pouch. We had noticed a Russian calendar on the wall of the headquarters *yurt* at Uptsun and these incidents, with the Russian equipment of the Mongol soldiers, showed a noticeable contact with the outside world. When I showed the fellow with the watch a picture of some of the Yulduz Valley Kalmuks, he at once said "Torguts." This man was probably a Buriat from Southern Siberia.

The Mongols with whom we came in contact were nearly all soldiers, though we did see a few non-military nomads during our journey to Kobdo. The latter were much less offensive than the soldiers and seemed a rather hospitable and friendly people. One or two older men were really likeable old fellows. While the soldiers and others in the Government have European arms and equipment and show their contact with the outside world in various ways, the unspoiled savage Mongol of the plains lives with the

utmost simplicity. Away from the main routes, where such articles of food as grain, tea, and salt are little known, the nomad Mongols live almost entirely on a straight diet of boiled mutton. What few comforts they have, such as iron cooking vessels and pots, have come by trading. These civilian Mongols, as they may be termed, are not a bad sort at all. But with the exception of our two guards and the chap at Hulum Nor who spoke Russian, the Mongol soldiers and petty officials were uniformly most unpleasant. One and all, they seemed to consider themselves superior to everyone, and they aggressively advertised the fact.

Under the present Government of Mongolia, the military influence seems paramount, at least in that portion through which we passed. We were unable to learn what Mongol tribe constituted the dwellers of the plains and of the few *yurts* scattered among the valleys of the Altai, but many of the officials we met later in Kobdo were identified as Buriats. I have been told, too, that they occupy most of the government positions at Urga.

The Buriat tribe has lived for many years in southern Siberia, where they have become to some extent agricultural. Slightly higher in the scale of intelligence than other Mongol tribes, Buriats seized the reins when an opportunity presented itself and the so-called Soviet Government of Mongolia appears to be run mainly by them, with Russian assistance. Were it not for the support and advice given them from Russia, however, it seemed to us very doubtful that the Mongol Government would function long. We found the Buriat officials fiercely suspicious of

everyone and everything, and they acted much like children experimenting with a new game.

After our day of enforced rest, we started bright and early, but the frozen snow made progress difficult for the struggling camels. Camels are good transport animals on dry, level ground, but they are about the worst possible on slippery trails, for their padded feet get little traction and their long legs are nearly unmanageable.

During the march we passed a large lamasery, composed of several walled compounds which contained the first permanent buildings we had seen in Mongolia. Some were of mud bricks though there were a couple of two-storied structures built of wood. The latter had roofs of Chinese design and we decided that they were temples. There were many lamas about, most of them wearing faded, dirty-red robes, although a few were dressed in yellow. Beyond the lamasery, a *chorten*, a familiar sight in Tibet, crowned a low hill. A *chorten* is a sacred container of lamaist bones, and has a certain religious significance.

In Mongolia, as in other lamaist countries, the priests form a non-producing class which is a constant drain on the population. At Urga there is a separate city inhabited by several thousand lamas; at Kobdo, we saw a large lamasery situated about a mile from the town and we heard that there were others not far away. The ritual seemed, from what we saw, to be similar to that of the Tibetan lamaseries, though it was noticeable that prayer-wheels played no part. Neither did we see prayer-flags in Mongolia.

Beyond the lamasery, the trail ascended over a divide and down into a tremendous basin, on the northeast of which a mountain wall rose to heights which we estimated at nearly fifteen thousand feet. We were now in the heart of the Mongolian Altai, the home of *Ovis ammon*. During the march we passed many old heads; one particularly fine one looked as though it had been dead not over a year. Under proper conditions, and in warmer weather, it would be an easy country to hunt, as one could ride much of the way, and stalking would be fairly simple.

Real winter was with us in earnest by this time and there was never a sign of thawing, even in the sun. A bottle of ink in its wooden box froze solid in my coat pocket under my heavy sheepskin coat. We were glad, at the end of that stage, to find several *yurts*, one of which was cleared for us at the request of our soldier guard. Although they were draughty and the fuel—little thorny bushes—was poor, we managed to get three or four hours sleep. Our men worked most of the night making up food for the camels, a mixture of flour and kaffir corn made into balls of dough.

Each *yurt* had a circular metal brazier in which the fire was made, and on which the occupants put one of their two or three cast iron bowls. Usually also there were several tea pots and long tapering jugs and various copper and brass pans in the household kit. Tea, a black and rather dreadful concoction, was made in one of the bowls, then ladled into a pot, in which it was kept hot over the fire. When they have flour, the Mongols put it and some kind

of paste into their bowls of tea, which make it almost a food. Salt is also added and this gives the tea a most unpleasant brackish flavor. After seeing the awful mess in the big iron pots in which the tea was made, we quit taking it. At the *yurts* where we stopped, mutton, which seemed the only food, was stewed in one of the bowls, the broth drunk and the meat eaten with much noise. All the *yurts* were very dirty, as were their owners.

Clark and I had long since ceased to worry about vermin or such trifles and it was remarkable how free from them we kept. We would just lie down alongside sleeping Mongols and get what rest we could. I doubt if they were any dirtier than we were, at that.

The Mongols wear nothing but cotton shirts under their pushtins, and their leather trousers are of goat skin with the hair-side inwards. When sleeping they take off the big coats, which they lay over themselves. If we could have made up our minds to part with so much as a single garment, no doubt we might have slept better, but as we did not seem able to get enough on to keep us warm, we could hardly consider taking anything off.

At one of our stopping places, travellers dropped in sometime during the night. One of these arrivals seemed to be quite a sport, for he was dressed in red leather Mongol boots with fancy stitching, a very snappy, blue cloth coat, lined with the usual goat-skin, and a highly decorated, tight, felt hat with ear pieces. He and the others present exchanged courtesies by passing snuff bottles, which were the little, decorated kind so common in China. The proper

procedure, when one is passed the snuff, is to take out the stopper with its long and slightly curved bit of bone, put a little dab of the snuff on a thumb nail and inhale it. Sometimes the stopper is just slightly lifted and a sniff taken. The latest arrival always begins the ceremony with his bottle and the courtesy is returned by his taking a bit from the bottle of the other person; if one happens to be smoking his long-stemmed Chinese pipe, it is passed and a puff or two taken in lieu of snuff.

It was not a bad country for travelling, though our horses were becoming thin and weak from their hardships. We doubted if they would live to take us into Kobdo, but all still showed spirit, and made fair speed. There was almost no grass, so our horses had to subsist on the occasional feeds of grain we could give them when our camels arrived. Sometimes, however, we reached *yurts* hours ahead of the caravan and then our poor mounts must needs wait, as it was not possible for us to carry forage on our saddles for them. We would have liked to rest them and ourselves, for we were becoming nearly as weary as they, but there was no question of stopping; we had to keep going until Kobdo should be reached.

The ground under the snow seemed mostly disintegrated granite and all that section had the appearance of old, broken down mountains projecting from a high plateau. It looked not unlike parts of the Pamirs, for there were no jagged peaks nor ridges and the valleys were often wide and open. Snow, of course, lay on mountains and in valleys, though it was seldom very deep. On one march we passed a large flock of sheep, near a couple of *yurts* partially

hidden in a draw. During another, a mounted soldier, leading a lightly packed horse, met us on the trail. As usual, he was travelling at a fast trot, with his horses in a heavy sweat. The soldier halted us and barked many questions, and as our escort was some way behind, I thought we were due for another inquisition, but he let us go at last.

It grew constantly colder and several times Clark's thermometer showed zero in his saddle bag against the horse's body. Our moustaches and beards were always heavily frozen and our horses were a mass of frost. Clark got a finger nipped and I the tip of my nose. We missed our woollen gloves, which the soldiers at Ji-ji-ho had stolen, though fortunately we still had our leather mittens. I tried the experiment of wearing a pair of heavy woollen socks on each hand and found they worked fairly well, though they made it difficult to hold the reins. My right hand, which had become infected at Ji-ji-ho, was a constant bother. We were becoming used to low temperatures, however, for one night we remarked that it did not seem so cold and on looking at the thermometer, found it read below zero.

I had never heard that the yak was raised or used in Mongolia, but at one camp we saw some being ridden and near another camp there were several grazing. In appearance they were exactly the same as those in the Pamirs. We heard that the Mongols of the western Altai owned numbers of yaks, but we did not see them used to any extent for riding and nowhere as beasts of burden.

We were travelling in a general northwesterly direction through, and diagonally across, the Mon-



MONGOLS AT ONE OF THE YURTS WHERE EXPEDITION STOPPED WHILE GOING TO KOBDO UNDER GUARD.



A TYPICAL MONGOL COUPLE OF THE ALTAI.

golian Altai. For the first half of the twelve days' journey to Kobdo the type of country remained much the same, a series of great basins from which narrower valleys led to divides. Mountain contours were rounded, and though broken masses of rock showed through the snow at times, there were no jagged peaks and the ridges were continuous. No vegetation, except occasional small areas of coarse grass, was visible anywhere; even the thorny bushes, which had been our fuel at one or two of the earlier *yurts*, disappeared and nothing but occasional rocks broke the smooth expanse of snow.

Then, during our sixth march from Ji-ji-ho, we entered a rock walled canyon which was nowhere over fifty yards wide. The moon was nearly full and deep black shadows from the canyon walls contrasted strikingly with the brilliantly white moonlight on the snow. We were surprised to note running water in one or two places, though the temperature was below zero. About five or six miles down the canyon, a sudden transition occurred. One moment we were in the heart of the mountains, then a sharp bend disclosed the hills becoming lower and we could look ahead to where the valley opened out onto the plain.

The hills along this last part of the march were dotted with low thorn bushes, and in the moonlight looked much like a tea plantation. Our trail led out across a rolling plain, also thickly dotted with low bushes, and the mountains gradually withdrew until they were a mile or two distant. Along the latter part of the canyon there was less snow and much of the trail was over bare rocks and gravel.

At a camp composed of three *yurts*, tucked away in a little draw, we were taken into a large *yurt* which we hoped to have to ourselves, but which we had to share with Mohamed, our soldiers, and two other Mongols. The Mongols, however, played some sort of game with little wooden dominoes, marked with sketches of animals, so the fire burned later than usual and we got some sleep.

November 19th we spent in camp, as the caravan did not catch up with us in time for a start. As usual, Mongols continually dropped into the *yurt* to sit and stare at us. They often talked about us among themselves and apparently found great amusement in our clothes, our kit, and our actions. Sometimes they picked up parts of our kit or clothing, examined them closely, and passed them around the circle. We didn't feel assured enough of our position to resent it, though the experience was not particularly pleasant.

Every Mongol wears various personal possessions stuck in his sash. They are usually a fire-maker, similar to the Tibetan article, a little white metal hook which is used for cleaning out the pipe bowl, and a small silver affair which, so far as I learned, is used for mixing tobacco. All these are fastened to a chain of white metal, which often has one or more old Russian coins or Chinese dollars added as decorations. Inside one bootleg, they carry their long-stemmed, tiny-bowled pipes, which have soft jade mouth pieces. Tucked away in their clothes they carry a cloth tobacco pouch, about a foot long by five inches wide, with a slit down the middle of one side. Their tobacco is of the green, powdered, Chi-

nese variety. In the pouches, they also carry their little snuff bottles. Small silver-mounted wooden tea bowls are often carried by soldiers and civilians alike, and these are unwrapped from many folds of cloth when occasion requires. We noticed that none of the younger Mongols wore *queues*. Now and then we saw an older chap with a pigtail but usually heads were clipped or shaven. All the Mongols were infested with cooties, of course, and "shirt-reading" was always a popular pastime among those in our *yurt*.

Across their backs our guards carried long magazine rifles of about 7 mm. bore, and each soldier wore a bandolier which contained fully a hundred rounds of ammunition. Sabers, similar to those of the Russians in the Pamirs, were also worn; in fact, the arms and equipment of the Mongol soldiers were all quite evidently of Russian origin.

As we went further, the type of country again changed and the mountains were mostly huge bare detached rock masses, not the long continuous ridges earlier seen. There was still no sign of timber anywhere, and altogether it was a most forbidding land, which must be frightfully cold in mid-winter. We saw several glorious sunrises and sunsets, with some of the most lovely and delicate tints of sky, clouds, and mountains that one could imagine.

At one stopping place, while waiting for our caravan to arrive, we saw several red-billed and red-legged black-birds, a number of magpies and a flock of brownish hill partridges. A couple of big hawks were circling overhead and when the partridges saw these, they huddled close to the ground and remained

so motionless that it was almost impossible to distinguish them from the rocks.

One day I saw a couple of Mongols on foot throw ropes over ponies in approved cowpuncher style. Both made good casts and caught their animals, but as they had nothing on which to snub them, the ponies carried the ropes away. The ordinary Mongol method of catching ponies was to have the noose on a long pole, ride after the pony to be caught, and drop the noose over it.

Clark was using his electric flashlight one night, and the usual assemblage in our *yurt* was greatly interested. One chap tried to light his pipe from it; another was frankly afraid of it and they all jumped when the light was flashed on them. One fellow reached for the torch and Clark lighted it suddenly as he was about to take it. The man jumped and rolled away in evident fright. Later, Clark took them all outside, where they thought it great fun to see the horses' eyes shine in the bright beam. It was very evident that none of them had ever before seen an electric torch.

On the eleventh day after leaving Uptsun we saw a big frozen lake far ahead toward the northeast. Our soldiers said that the lake was Kara Usu Nor and that Kobdo lay a few miles northwest of it. There was almost no snow anywhere in the basin of Kara Usu, nor on the nearby hills, though far to the north a snowy range rose above nearer brown ridges. The lake stretched in an unbroken sheet of ice fully fifty miles northeast, while on its southern shore, frozen marshes and reed beds extended some distance inland. Among the high reeds were the

clustered *yurts* of a large camp named Tsagan Dali, and our soldiers led us to these and indicated that we were to stay there for the night. There was nothing to do but dismount, though we were anxious to reach Kobdo. Once in Kobdo, which we thought would prove a fair sized town, we did not expect serious trouble in proving our identity and purpose, and the Russian Consul, we thought, would easily be able to arrange for our journey eastward to Ulyasutai and Urga.

While we were resting a young Russian came in. The large Mauser pistol on his belt indicated that he must be connected with the Mongol Government, but regardless of that, we were glad to see him, for at least he was a white man. He could speak a little German, by means of which he and I talked after a fashion. I tried to answer his questions about what we had been doing, where we were from and where we were going, and then I showed him a few photographs, which, I think, explained our work better than my rather lame German. He seemed to understand and pleasantly asked us to come to his house when we arrived in Kobdo, though the name and address, which he wrote on a piece of paper for us, were in Russian and unintelligible to us. We kept it, however, for he was our first friendly contact in Mongolia.

We made an early start next morning and, after crossing various inlets of the frozen lake, struck across a wide sloping plain toward a series of low hills. A broad trail wound through these for about three miles and descended to another plain, where Kobdo came into view.

The town of Kobdo lies in a great basin amid a scene of rocky desolation that is impressive in its magnitude. The town itself was very disappointing, for where we had expected a place comparable to one of the cities of Turkestan, it was but a little oasis of trees and one storied mud buildings, almost lost in the big basin. Beyond it was a large lamasery, whose low, mud buildings nestled at the foot of a hill.

As we rode nearer we could distinguish red flags on various houses. One or two buildings, a bit more pretentious, were higher than the others and had white-washed walls. We thought that one of these, just outside the town, must be the headquarters to which we were going, but we were taken instead to a *yurt* just inside the very dilapidated outer walls of the town. Inside this *yurt*, which was cleaner and better fitted than most, we found four young Mongols. Two of these were probably subordinates, as they took little part in what followed. One of the other two was a petulant looking lad who was as unpleasant toward us as he could well be. The other was a perfect North American Indian type, with straight brows, slightly Roman nose and long black hair. Both of these took a hostile attitude at once and kept it through the four hours we were before them. Several big Mauser automatics with belts of loaded clips were hanging about the *yurt*, which seemed to be the office of the Police Department. There was a stove in the center and the walls were covered with decorated *numdahs*.

We produced passports, letters, pictures, etc., all of which were thrown aside while the Mongols had

lunch from a big bowl of boiled meat which a servant brought in. Needless to say, we were offered nothing.

When the Mongols had finished their meal, some one was sent out for a young soldier who could speak Chanto, and through Mohamed and this fellow we told our story again, backed up at times by one of the soldiers who had come from Uptsun with us. The two chief inquisitors paid no attention to most of it and asked many questions, such as who we were at home, what military rank we held, etc. Each time I answered a question, they sneered and said that I was lying and that we were soldiers and spies. We were getting nowhere and it began to look black for us once more. I asked to see the Russian Consul but they ignored the request. The letter to the Consul and all our papers they barely glanced at but threw aside, and we seemed to be against a blank wall. The two inquisitors went out after awhile and we were left sitting uncomfortably on a box.

Then another Mongol came in. He wore the red-starred army cap but was dressed in semi-European clothing and seemed more than just a savage. I learned later that he was the local commissar, a Buriat Mongol from Siberia. He lounged about for a time, then idly began to look over our papers and pictures. Evidently he could read a little Russian, for when he got to the Pamir permits with Rakofsky's name on them and saw our letter to the Russian Consul, he began to take more interest. He asked a few questions and when the unpleasant first two men came back, held a whispered conversation with

them. A messenger was sent out on some errand and again we awaited developments.

After a long wait, in came an old Mongol dressed in yellow, who appeared to be someone of importance. He proved to be the governor general, appointed from Urga, and local chief of Kobdo. This chap seemed to have a few brains and was not entirely saturated with suspicion of everything unusual. He quietly looked over our papers, asked a few questions, and sat for some time considering. Even our inquisitors were respectful to him. The governor general asked how long we wished to stay in Kobdo and I asked how soon we could leave. Then he asked where we would go in Kobdo if released. I said that a Russian, whose address I now showed, had invited us to come to his home. At that the governor general nodded and we were told that our papers would be sent to the *Sait-Yamen*, or headquarters, and that we would be taken elsewhere for the time being. We followed the young soldier who had come with us, mounted and rode through the town, stared at by many Mongols and a surprising number of Chantos. Nearly every house had a red flag above it, though we found that these were only flown above the homes of Government officials.

At one of these houses we dismounted and were led into a large compound. Naturally, we thought it was another Mongol office where we would again go through a third degree. We were greatly surprised and pleased when the door opened and we found we had been taken to the home of our German-speaking Russian friend of the day before. He and his very pleasant little wife made us welcome in their

tiny, three roomed house. His name was Samuel Davidson, though I rather think that that is as near as it can be written in English and that the Russian of it is somewhat different.

Davidson had been a White Russian officer at one time but was now in the Mongol service. I told him our troubles and explained what we were trying to do. The day before he had simply taken us on faith as a couple of strange white men in a strange land. He was the Good Samaritan come to life, for he had come out of his way to lend us what help and encouragement he could. What he did for us will always seem to me one of the kindest, most human things I have ever known one man to do for others.

We were so glad to be with white people that our tension relaxed and we gave way to a very natural fatigue. Later, several of Davidson's friends came in. All of them were kindly and interested in us. One chap could speak a few words of French; another asked me if I could speak Yiddish.

In the evening, Davidson took us out to a little house in the compound, where we had a real Russian steam bath. In a small room was a big plastered heater, fired from outside the building. Water thrown on the hot side and top of this gave off an amazing amount of steam, while from a trough in the boiler-like affair we dipped hot water into a couple of tin tubs, cooling it to suit with cold water from another tub. The steam thoroughly warmed us, and altogether it was a great treat. When we went back to the house we found that Mrs. Davidson had prepared a good supper of boiled meat, bread,

and tea. Everyone was so pleasant and the relief of being among friends and away from the Mongols was so great that we felt nearly ready to weep.

All during the night one of Davidson's men patrolled the compound, rattling a little lama drum which took the place of the stick-tapping of Turk-estan. Next morning Davidson went with us to the Consul's office, which was in a large building on the main street. He told the Consul of our experiences with the Mongols and the Consul made notes regarding them. He seemed much concerned over our unpleasant experience, as did all the other Russians whom we met in Kobdo. Again we went over our papers, and now, once more, Senator Borah's letter had its effect. After about an hour with the Consul, we went to the Mongol *Gali-Yamen*, or Custom House, which consisted of a couple of *yurts* in a very dirty compound.

At the *Gali-Yamen* all our camels were parked and our boxes and bags strewn about the yard. We had asked the Consul whether he could help us with the clearing of our baggage, but he had said he could do nothing. It appeared that the Russians had certain officials who were teaching the Mongols how to run a government and an army, but except for this and in possible urgent cases, they could not interfere. At the *Gali-Yamen* several dirty individuals went through our boxes. If it had not been so cold, tedious, and generally exasperating, it would have been funny. They had no idea of what they were trying to do and each one made his own independent inspection. Tins of milk, butter, etc., were inventoried, and even such small articles as

envelopes, razor blades, and sheets of paper were carefully counted and listed.

Our silver and money were weighed and put in a box, as were our rice, sugar, and other bulk stores. After we thought they were through with a box, another chap would repeat the performance. My toilet kit was a great treat; they took everything out and pawed it over with much interest. They had an awful time with our gazelle skins and bones and could not understand why we were carrying them with us. They wanted to know the purpose of every single article. Davidson stuck by us and acted as our interpreter. He told me afterward that he had a hard time persuading them that it was not necessary to make us open all of our film; they at first insisted that each roll be opened, which would, of course, have ruined the lot. Our small stock of brandy was taken as it seemed that liquor was a Government monopoly.

At the close of the inspection we were informed that each person entering Mongolia was allowed two hundred Chinese dollars, or their equivalent, free of duty and that all money in excess of that amount was taxable at the rate of 20 per cent. We protested that we were but travelling through the country and needed our silver for transportation, but the Mongol in charge simply grinned and said that we must pay the duty. So our rapidly dwindling supply of money was depleted still further. Finally everything except the brandy was released and brought to Davidson's compound, where an unused storeroom was put at our disposal.

We seemed definitely to have been released from

Mongol custody, but our efforts to get permission to continue eastward were futile. The Consul advised us to go out via Siberia, for which he offered us visas and arms permits. He said if we attempted to go on through Mongolia, even with Mongol permits, we would have the same sort of trouble at Ulyasutai and Urga, as the head of each district acted independently of the others. Also, our guns, cameras, and film could not go with us if we went east. We could afford to lose our arms and cameras, but the exposed film, the record of our work since leaving Kara Shar, was of too much value to risk losing. The journey to Siberia would be two hundred and fifty miles by wagon to Kashagatch at the frontier and from there by sleigh three hundred and fifty more to Biisk, a town on a spur of the Trans-Siberian railroad.

We hated terribly to abandon our plan of crossing Mongolia and did everything possible to carry it out. The governor general, however, stubbornly refused to allow it, even though Consul Goldstein pressed the point at several interviews. We were not permitted to be present at any of these, for the Mongols still treated us as inferiors and would have no direct dealings with us. After several days' efforts, we were reluctantly obliged to accept the inevitable and plan to go out via Siberia.

While the negotiations were in progress, we had an opportunity to look about the town, though photographs were strictly forbidden.

Kobdo is a small place, probably not over a quarter of a mile square. There are many ruined walls, which give the impression that the town was



A TROIKA. ABOUT TWO HUNDRED AND FIFTY MILES—FROM KOBDO TO KASHAGATCH—WAS COVERED IN THIS WAGON.



SAMUEL DAVIDSON—"THE GOOD SAMARITAN OF KOBDO"—HIS WIFE AND SON, TOGETHER WITH WILLIAM J. MORDEN (LEFT) AND JAMES L. CLARK (RIGHT).



LOADING SLEIGHS FOR DEPARTURE FROM CABIN AT KASHAGATCH, SIBERIA, WHERE EXPEDITION AWAITED
PERMITS FROM MOSCOW TO PROCEED TO TRANS-SIBERIAN RAILWAY.

(When Photograph was Taken the Thermometer Registered 44° Below Zero.)

devastated at some time and never entirely rebuilt. The place owes what importance it has to its location at the junction of caravan routes into Siberia. One wide street, lined with tall poplars, seems the only street of consequence. A town well, at the intersection of two small streets, supplies drinking water for almost the whole place. The water level is about twenty feet below the surface. Except for the few poplars on the one street and in a tiny park made by the Russians, there are no trees in the town or on the plain. The whole place is brown and dusty.

Davidson said that the town was demolished during a Mongol insurrection some years before, and the crumbling remains of an old, walled town near the present village bore out his statement. He said that when he came there, about five months before our arrival, only portions of the walls of his present house were up; he rebuilt and roofed it himself. Practically all the Mongol official offices were *yurts* in dirty walled enclosures scattered about town.

We saw a number of Chantos, who lived in a quarter by themselves. The Mongol soldiers numbered some two to three hundred; there were also fifty or sixty Russians and a scattering of Mongol officials. Practically all the Russians except the Consular staff were in the employ of the Mongol Government, either in the army as instructors, or were working in the bank or the co-operative store. All the Mongols were very insolent in manner, the soldiers particularly so. They seemed to have the right of entry where they pleased and were always coming into Davidson's house without knocking. Nor did he seem to have the authority to eject them.

Once a couple of soldiers followed us in just to see who and what we were. Another time a soldier pushed into the room while we were eating and demanded to be sold some cigarettes. Davidson told him that he did not have any cigarettes to sell, but the fellow replied that we were known to have some and demanded that Davidson take ours and sell them to him. Davidson threatened to report him at the *yamen* and the man left, but not until after he had seated himself and insolently looked about the room for some time.

All the Russians in Kobdo thoroughly disliked the Mongols and their favorite term for them was "swine," generally preceded by adjectives. No one seemed sure of himself and there was a distinct air of uneasiness. One evening when several of Davidson's Russian friends were at the house and we were singing and laughing, footsteps were heard outside. A hush came over the room and talking ceased until they passed on. One sensed that the Russians felt they had started something in Mongolia which they were rather afraid might prove a Frankenstein monster. They made one think of a man who had hold of a powerful coiled spring and was afraid to let go, or the old story of the chap who had the bear by the tail.

While we were at breakfast one morning a very decorative and rather fine looking Russian officer entered. Davidson said that he had been sent from Moscow as instructor for the Mongol soldiery and that he held high rank in the Russian military establishment. His visit was to learn more about our experiences at Ji-ji-ho, a report of which I had written

at the request of the Consul. I told the story in detail and the officer listened very carefully to Davidson's translation. At the conclusion, he remarked that we had been very lucky not to have been shot at once. The outlying Mongol posts, he said, had little discipline and anything might happen to strangers arriving unannounced. He also stated that it was fortunate that we had been brought to Kobdo, rather than to some post where there were no Russians, for, he admitted, we might have had a pretty rough time without our Russian contacts. I expressed our opinion of the Mongols at some length, and he agreed with me.

With all hope of continuing eastward through Mongolia entirely abandoned, we spent the rest of our week in Kobdo preparing for the journey to Siberia. The first thing was to get back our papers and arms from the Mongols, but this took time and was only finally accomplished with much difficulty by the Consul. Then we had to have Mongol passports and permits to travel, the latter known in Russian as *probsk*. It seems that, in Mongolia, every foreigner must hold a Mongol passport. These documents, which are not valid for travelling about but only allow one to exist, are made out for limited periods and charged for accordingly. To enter or leave Mongolia or to make any sort of a journey within it, one must hold a *probsk* in addition to a passport, and the *probsk* must specifically state where, when, and how the journey is to be made. It was not exactly a cheery sort of land to travel through and, as Clark remarked, it would hardly endear itself to tourists.

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There were two or three motors in Kobdo, by the way, but they were out of commission. In addition, there was no motor-fuel until caravans brought a fresh supply from Siberia. We heard that in summer a passable motor-route skirts the mountains to Ulyasutai and Urga but that much of it is rather hair-raising.

On Saturday afternoon our Russian friends went bird shooting on the nearby plains and all the Mongol offices closed for that day and Sunday. It was rather surprising to find everything closed over the week-end, for the Mongols are Lamaists and the Soviets have, technically at least, abolished organized religion. On that Sunday in Kobdo, however, we could do no more business than we could have done in any city of the Western Hemisphere.

After the enforced inactivity of the week-end, Davidson took us to the bank, a Mongol Government institution staffed by Russians, and we found that the Director, who looked like an American, spoke excellent English. I asked him what to do about our silver, for contrary to what we had been told in Urumchi, we found that silver bullion was not current in Mongolia. The Director told us to bring over our silver and he would buy it. He gave us a very fair rate, part in Mongolian money and the balance in a rouble draft on a Russian Bank at Biisk.¹

¹ There is a new Mongolian silver currency, coined in Russia and based on the Chinese dollar. Yuan-shi-kai dollars are also current, as is a new paper issue of Mongolia dated 1925 and printed in Russia. The notes are for \$1.00, \$2.00, \$5.00, and \$10.00 and are rather decorative; there are also silver and copper coins of smaller denominations. It is probable that there is some sort of Russian backing for the paper issue.

It proved quite a task to sort out what could be taken with us and what must be left behind. Finally we decided to leave with Davidson everything except specimens, instruments, cameras, exposed film, bedding rolls, and a few needed articles of clothing. Food for a week was necessary to Kashagatch; the balance we gave Davidson. In order to give him this varied assortment of equipment and food, we had also to give him a certificate, which listed the items and established his ownership; without this they were subject to confiscation by the Mongols and he to a heavy fine. The two horses which had served us so well were given to our host and a friend who loaned us a wagon. The third we gave to Mohamed Rahim, for though we had expected to take Mohamed through to Peking with us, he expressed a wish to return with the Kuchengtze caravan. He could be of little service in Russia, so, though we hated to part with him, we acquiesced in his desire to return home by the shortest route. The Consul assured us that he would obtain a Mongol passport and *probsk* for Mohamed, so that he would have a less unpleasant journey back to Turkestan than the outward trip had proved to be.

Accurate information regarding the length of our journey to Kashagatch was difficult to get in Kobdo. Once we heard it was six days, another person gave it as nine days; actually it took us eight. The

Mongol postage stamps, also decorative affairs, are printed in Urga but are good only inside Mongolia and Russia, for Mongolia does not belong to the Postal Union. There is a weekly mail service between Kobdo, Ulyasutai, and Urga, but aside from that and for mail into Russian territory, the Mongol stamps did not seem of much value.

stories of the route beyond Kashagatch were even more vague, but everyone seemed to think that we could reach Peking within a month.

Our first plan was to make the Kashagatch portion by camel caravan, but a friend of Davidson's, who managed a Russian Trading Post at Kobdo, offered us the use of a wagon and three horses for the trip. He said we could sleep at posts of his organization along the road, which would allow us to leave tents and camp equipment behind. The wagon would make better time than could a caravan, so we gladly accepted the offer and arranged to send our irreducible minimum of baggage, mostly film and a few specimens, ahead by camels obtained for us by one of the bank officials.

To drive our wagon we hired a Russian who ordinarily worked for the Mongol Coöperative Store, but who was then unemployed. Our wagon, a light vehicle of the buckboard type, had very small wheels and a hay-filled, wicker body. Three horses were hitched abreast. Over the wheel-horse a yoke, shaped like an inverted U, held the shafts together and put a tension on two braces which extended from the ends of the front axle. No traces were used with the wheel horse, who worked through the shafts directly to the axle; the outside horses pulled through traces to singletrees mounted on projecting brackets. The construction was Russian and seemed excellently adapted to rough travel.

A *yakdan* of supplies, another box with cooked meat, bread, and some apple-tarts which Mrs. Davidson prepared for us, our guns rolled in a bag of *numdahs*, the driver's bag of food for himself and another

of grain for the horses, besides our heavy goatskin coats, made a heavy load for the little vehicle. Often we would have been glad to crawl down into the hay-filled wagon body for warmth but our guns took so much room that we had to sit on them, high up in the cold wind.

We had thought that the two young Mongol soldiers, who had been our guards from Uptsun to Kobdo, had returned to their post, but just before we left they came to see us at Davidson's house. On our arrival at Kobdo we had given each of the boys a large sheath-knife, as a token of our appreciation of their efforts to lessen the discomforts of the long ride and they had seemed greatly pleased. When they came to say good-bye, each one presented each of us with a Chinese silver dollar. The lads doubtless had nothing to give us but the dollars from their probably meager pay and their little gesture of friendship touched us deeply.

CHAPTER XIII

THROUGH THE HEART OF SIBERIA TO THE LAND OF THE DRAGON

AT last we were ready to leave. The caravan of seven camels, sufficient for our reduced baggage, got away on November thirtieth, and on December first we followed in our little wagon, heading northwest across six hundred miles of that solidly frozen land to the nearest railroad, which we hoped would take us to Peking by Christmas.

Davidson and a young Russian lad rode with us for a way and Davidson again assisted us at the *Gali-Yamen*, where the Mongols once more looked over our papers and poked about in the wagon-bed, but apparently could find nothing about which to make trouble. To us it was obvious that the Mongols overlook no opportunities to annoy foreigners within their boundaries.

Just before we left, Davidson told me that he had been ordered back to Urga and expected to start early in January by caravan with his wife and little boy. A bleak winter journey of nearly nine hundred miles lay ahead of them, but they faced it with calm fortitude as part of the misfortunes which had come upon them during recent years. The Davidsons had been so good to us, complete strangers as

we were, that, though we were naturally glad to leave Kobdo, we parted from them with very real regret. I shall always remember Davidson as one of "Nature's noblemen."

We were handicapped on the first stage of fifty miles by a late start and fell a bit short of our destination, for as soon as night came on we began to wander and frequently lost the road. It was hopeless to blunder ahead in the dark, so we decided to stop and lie out where we were. Some thorny bushes, which we broke with difficulty, made enough fire to melt a little snow for coffee, and that, with frozen bread and frozen meat, composed our supper.

We had brought a few tins of baked beans with us but of course they were frozen solid. We attempted to thaw out one tin near the fire but forgot to pierce the cover. In a few minutes the whole thing, tin, beans, fire, and all, went skyward, to the great disgust of our horses tethered to the nearby wagon. Later, we learned to eat frozen beans.

It got pretty cold during the night and by morning the thermometer registered six below. We had not brought our sleeping robes, for it had seemed reasonably certain that each night we would be at a Russian trading post. But though we were a bit chilly at times, we managed to get some sleep. Clark curled up in the wagon-bed with the horses eating the hay around him. In the morning he said that he had felt them nudging him with their noses all night, and when he awoke he found that they had eaten most of the hay from beneath him.

After daylight we found the road, and another five miles brought us to the post which we had ex-

pected to reach the night before. It was a trading post composed of a little mud house and two *yurts*, with the red Soviet flag flying from a pole inside the brush-walled compound. Both our driver and the Russian in charge of the post advised us to stay there all day and over night, because much of the next stage, another fifty miles, was rocky and difficult and should we not cover it by nightfall, we would only lose our road and again have to sleep out.

It was rather pleasant to rest. During the afternoon we trimmed our beards, and the job was one which would have been more than a handful for any civilized barber. At Kobdo one of the bank clerks had given us a haircut, but we wore the accumulated growth of nearly nine months on our faces. We found our long beards a great protection against wind and weather, but there were distinct drawbacks. The moisture from our breath often froze until our beards and moustaches were so caked with ice that we could hardly open our mouths. After the unkempt luxuriance of so long a time, our clipped beards gave us a "policed-up" and fairly civilized appearance.

After revelling in a good sleep in a warm room, we resumed the bleak journey, which took us at once into a rocky gorge and back and forth across a frozen stream. The mountains were higher as we progressed, and the snow deeper. The road climbed to a windy divide of eight thousand feet, then dropped into a narrow canyon.

We came in the late afternoon to the trading post of Tulba, a long mud house in a log compound. Bales of wool were piled about the yard and a big

scale indicated that considerable business was done there. These stations, we learned, buy wool and hides, and trade in various articles, such as iron pots, pails, etc., needed by the Mongols. The Russian manager, after seeing our letter of introduction from his chief in Kobdo, got out the samovar and we had tea, supplemented by food from our own box. With the Kirghiz employees of the post, we slept on the floor, seven in one hot little room.

The next two days were very similar, one stage of forty-five miles and another of twenty-five. The days were clear and cold, and the country rough and bleak; the nights' stops brought us to trading posts where we met with simple but cheering hospitality. The region through which we drove during these two days appeared as a series of big basins; they were really valleys, of course, and all had outlets, but were so wide that the term "basin" seemed applicable to them.

On the fifth day out from Kobdo, the road led up a stiff climb to a ridge, from which a long descent brought us into an area of bushes and grass along the bank of a frozen river. Many old campsites showed that it was a favorite stopping place for herders and travellers. Though there was little snow in the valleys, it lay deep on the high summits which rose in the distance. Some of these higher ridges we estimated at fully ten thousand feet.

Our road, which was hard and good, kept along the south side of the basin for several miles. Large herds of cattle were out on the flat, and several groups of *yurts* seemed to be Kirghiz camps, for the *yurts* differed somewhat from those of the Mongols.

We crossed a stretch of grass hummocks toward three compounds near the north side of the basin. Two of these, which flew the red flag, were composed of log buildings, and one of them proved to be the post where we were to stop for the night. Many large piles of wool and people working in the compound made the place look busier than any of the previous posts. There were several men and three women stationed at Ulankusa, as we learned it was called. A long building and a small cabin appeared to comprise all the housing facilities. Soon after we drove up, a Mongol came from some *yurts* outside the compound and made a casual inspection of our baggage, for it seemed that Ulankusa was also a Mongol Customs Post. He was not too unpleasant, however, and was greatly pleased when Clark took his picture. The manager of the post, a big husky chap who looked like an American, was very pleasant and invited us into his room, where his wife made cocoa for us.

Shortly after leaving Ulankusa, we saw great numbers of old *Ovis ammon* heads in the snow. They were scattered about so thickly that the locality looked like the parts of the Pamirs where the natives do their winter shooting. We afterward learned that the heads dated from the winter of 1910, when there was a great snow-fall which deeply covered the hills and forced the sheep down into the valleys, where they died in the snow by hundreds.

A thirty-three mile stage brought us the next night to Kholik, another trading post which was little more than a dot on the plain. We three and the seven men at the post slept on the floor of a



IN SIBERIA, EN ROUTE FROM KASHAGATCHI TO BISK.



MORDEN (RIGHT) AND CLARK AFTER THEY HAD BEEN RELEASED BY THE MONGOLS AND WERE ON THEIR WAY TO BISK.

yurt. Then, hardly remembering that we had stopped, we found ourselves again on the road, in weather so cold that it was a constant struggle to keep our faces from freezing.

That day we met several caravans of camels and many carts along the road, most of them bound for Kobdo with supplies and farm machinery. There were the tracks of a motor car in the deep snow, but we had heard at Kholik that the machine had been abandoned somewhere along the road.

Tashanta, a Russian military post just inside the Siberian frontier and the end of the telegraph from Kashagatch, did not receive us very well at first, but after the soldiers had telephoned to headquarters for instructions, we were permitted to spend the night there. Our papers were inspected and our bundle of rifles was sealed by the Post Commander, a tall young chap who took himself very seriously.

The Russian mounted soldiers at Tashanta wore felt boots, blouses, and breeches, very long dark colored overcoats and the usual pointed-topped cap with neck and ear pieces. Their rifles, carried slung across the back, were short Mauser-action carbines of about 7 mm. bore. The enlisted men wore sabers and rode perched high up on the old Cossack type saddles with their absurd-looking, big leather pads.

We were now but thirty miles from Kashagatch, which we made in an easy stage through more settled country. Several Kirghiz rode up alongside our wagon from time to time and talked to the driver. These fellows were very light, some of them true blondes. Most of them wore large moustaches and scanty beards which were generally thickly matted

with ice. They were striking figures in their big, high-heeled, leather boots, goatskin trousers, and tremendous fleece-lined coats, the latter usually trimmed with black or colored velvet and tied at the waist with woolen sashes. Their big fox skin caps were picturesque, for they were high crowned and had generous ear flaps and neck pieces—the whole sometimes covered with brilliant red or blue cloth, decorated with feathers or tassels. Many of the Kirghiz, like Mongols we had seen, bore on their faces the marks of recent severe frost-bites.

We were glad when at last the little town of Kashagatch came into view. A large building of logs and white-painted boards appeared to be the Custom House and Military Headquarters, so we drove to it first. Well-padded doors gave entrance into a bare-walled room with a small stove, two tables, and the inevitable samovar behind a wide counter. Several Russians, two of them in uniform, were present, and after I had opened up my several coats and sweaters, I dug out our passports. They looked them over, while one told the driver to bring in our things. One of the men, a short little fellow with two red bars on his collar, asked if I spoke German. I thankfully said that I did and then we began to make progress. The seals put on our bundle of rifles at Tashanta were cut off and we opened them up for inspection. The Consul in Kobdo had written for us a couple of letters of introduction to people in Kashagatch and we at once asked for the addressees. One letter to a man named Buchwold, an Austrian who was said to be in the Coöperative Store, was opened by the German-speaking officer,

read through and pocketed. We thought him pretty high-handed until he told me that he was Buchwold himself. He said that at one time he had been able to speak English but had now forgotten it, though he could still read it a bit. The Consul had apparently written him all about us, for he seemed anxious to help. All our coats were carefully looked over, with particular attention paid to the contents of their pockets. They were much interested in our little stock of medicines and bandages, but passed them. My brief-case of papers, all the books we had in our bags, and our cameras were kept to be examined later, Buchwold saying that we would get them back the next day. I called his attention to Mr. Rakofsky's Pamir permits and told him of Senator Borah's letter. All the Russians were pleasant enough, particularly after seeing these credentials. They told us that our camels had arrived, that our goods were in a shed next door, and that we could come around next morning and go through the lot. We had expected that there would be questionings and many arguments over our guns, but they simply had us unroll them and casually looked them over without even examining the numbers. When we asked if we were to leave them at Headquarters, they told us that we were free to take them with us.

Buchwold conducted us to the Kashagatch office of the trading company at whose posts we had stopped along the road. We found the place a three-roomed log building, the home of a Russian family, and were made welcome by a fine-looking, elderly man who managed the office. Clark and I were given one of two beds in a tiny room, and though

the bed was hard and only about three feet wide, we could do wonders at sleeping close together by then and made out very well.

Next morning at the Tamoshna, or Custom House, we were invited into an inner office, where an intelligent-looking chap with blond hair and beard was seated behind a desk. On the wall back of him was a large picture of Lenin, an almost universal decoration in present-day Russia. A soldier at a smaller desk had our passports and papers, which were later turned over to us with our books, brief-case, and cameras. The chap at the desk, whom I first took to be the Chief Commissar, turned out to be the head of the local Custom House, a sort of Collector of Customs. We were taken out to where our baggage was sealed in a locked shed and there proceeded to open up for inspection. It soon became evident that during their night inspection of our papers they had seen that our credentials were excellent and they were not particularly suspicious of us. One chap, however, seemed to have hidden compartments on the brain and he tapped and felt about our cases and boxes for possible secret places. The others went at the inspection as would any ordinary customs officers. They were really very decent about it all, much to our surprise and gratification. Our two remaining bottles of cognac, which Davidson had got back from the Mongols in Kobdo, were taken into the house and weighed but later returned to us without comment. There was slush-ice in the bottles, a condition which we had noticed before on a particularly cold day along the road. It was not to be wondered at, however, for our

thermometer showed under twenty below zero each night.

A pale-faced lad with glasses, whom I had thought quite decent outside, proved to be the chief obstructor of progress. When Buchwold finally turned to us and translated his remarks, we learned that we could not take our movie cameras, film, or binoculars into Russia without a permit from Moscow. So we had to wait as patiently as we could for a wire from Moscow, and there was little in the village to divert us.

Kashagatch was a scattered town of log and mud houses, the former predominating. A big domed building, which dominated the low one-storied houses of the town, used to be the Orthodox Church, but Buchwold said that it had been turned into a club. There were probably not over two hundred people in the town, excluding the garrison, which as nearly as we could estimate, was composed of about two hundred soldiers, housed in log barracks near the Custom House.

Several days after we had arrived, a couple of un-uniformed men came to our room, fortunately when Buchwold was present. They asked many questions about us and our papers, all of which Buchwold answered. At first they did not seem very friendly but I heard Senator Borah's and Rakofsky's names mentioned, and both of these seemed to have an immediate effect. The two men were greatly amused at Buchwold's account of what the Mongols had done to us; most of the Russians at Kashagatch seemed to think our Mongolian experiences very funny. When they left, Buchwold said that they

were local police who had come to check up our credentials. Once more we were glad that we had such exceptional papers.

The house in which we were quartered was equipped with double windows, the outer of which bore an inch-thick coat of ice. The place was heated by two big stoves of mud brick, each about four feet square and each projecting into two rooms. The cooking was done in another brick stove about six feet square, with the fireplace three feet off the floor. This fireplace went several feet back into the stove and food was cooked in iron pots over the open flame.

On one occasion while we were awaiting the arrival of the Collector at the Custom House in order to ask some questions, we sat watching the customs men go through the effects of a family of Russians who had just arrived from Kobdo. It was about the most thorough inspection I ever saw. One woman, after having all her luggage searched and some of it taken from her, was sent to another room to be personally searched by a woman. They cut open bedding, tapped boot-heels, and went through all her effects with amazing thoroughness. Many articles, mostly new, were put aside, though whether for appraisal or confiscation we could not tell.

We were unable to get any definite information about an answer from Moscow but at last the Chief of Customs agreed to allow our motion picture cameras, film, and field glasses to go through in bond without waiting any longer. A man from the Government Transport Department was called in and instructed to seal the boxes and make out the papers.

I suggested that it would be appreciated if our goods could go along with us, and to this the chief assented.

Everything seemed to be moving well and we looked forward to a start the following day. But when we went to the Custom House next morning the young chap whom we called "The Official Objector" came forward and stated that while our cameras and film could be allowed through in bond, our binoculars were military property and were subject to confiscation.

Then and there I had a brain storm. I had been patient and long suffering and polite under severe provocation. But now, after several weeks during which we had constantly been objects of suspicion and had been almost literally kicked about, I abruptly revolted. As the British aptly put it, I "went off the deep end." In very bad but apparently intelligible German, I told them that up to that moment we had received unfailing courtesy and consideration from Russian officials and had hoped to be able to tell of it when we returned home. But, I pointed at length, they were spoiling the effect by practically robbing us of several hundred roubles worth of glasses, which we simply wished to take through Siberia in bond. I said it would be simple for us to buy more binoculars when we reached home, but that they were really only taking them for their own use. At the moment I cared little whether I were arrested, or sent back to Mongolia, or whatnot. I was thoroughly angry. For some reason they were impressed with my eloquence and held a hurried conference. Then Buchwold suggested that we wait half an hour for a possible favorable answer to the

telegram to Moscow. I observed that we had then waited five days for an answer, so it was hardly likely that one would come in the next half hour. He agreed that it seemed improbable, but suggested that we await the return of the Chief of Customs, who had left the office for a few minutes. I consented and sat down, still a bit warm.

They held another conference behind the closed doors of an inner room, while I smoked and waited. Soon Buchwold came out to say that the telegram from Moscow had just come and that we could take everything with us in bond. And that, of course, was that.

Buchwold hired three sleighs for our nine-day journey to the railroad at Biisk, a distance of three hundred and fifty miles. We were to ride in one, while our baggage went in the other two. Without any knowledge of Russian and with little likelihood of our meeting anyone who could translate for us, we wondered how we would be able to make ourselves understood at the villages where we were to stop at nights. The day before our departure, however, Buchwold brought around a young officer who was going to Biisk, and this chap, while he could speak nothing but Russian, was instructed to look out for us. He turned out to be quite a likeable youngster and on at least one occasion prevented our being annoyed by inquisitive policemen.

When we left Kashagatch early on December fourteenth, our thermometer registered forty-four degrees below zero. It was a bitterly cold morning to ride, but fortunately there was no wind for the first few hours.

Our own sleigh had three horses, the others two;

all long haired husky Siberians. The sleighs were low, narrow-gauged vehicles, with wooden runners that curled up in front and were joined by cross pieces. On each side, heavy wooden fenders extended about a foot from the ground, and stood out at the rear until they were more than a foot beyond the runners and outside of the body of any load. Our sleigh had a wicker body, similar to that of the Kobdo wagon; the others had no bodies, but the loads were put onto the cross pieces of the running gear and lashed in place. On one sleigh rode our soldier, wrapped in a big gazelle-skin coat with tremendous collar and cuffs, and sleeves fully a foot longer than his arms. The drivers were Russians and did not seem particularly to mind the bitter cold. Clark and I wrapped ourselves in our pushtins, tied our heads and faces up as well as possible and sat on one of our bags. We kept warm enough in the body but it was a constant struggle to keep noses, hands, and feet from freezing. I put a sock across my face, but it soon became so stiff with ice that it was useless. After that, I tried to keep my face down in my coat collar as much as possible but it, also, was soon icy. Our wool-lined mittens were useless, so the only thing we could do was keep our bare hands up the long sleeves of our pushtins. This just kept them from freezing, though they were always stiff with cold. Our feet were cold all day.

The winter trail was largely on the frozen surface of a river. We passed several sleighs and a few camels, all loaded with logs and headed toward Kashagatch. In one or two places, there was running water on the ice, an amazing thing at that temper-

ature. Once, one of our horses began to wheeze badly and the driver stopped to dig out of its nostrils big chunks of ice which had entirely closed them. I managed to keep my nose from freezing until we stopped at a house for a rest. Then there was a short discussion as to whether we should stop or go ahead and while talking in the wind, which had suddenly come up, I froze my nose rather badly. While rubbing it with snow before entering the house, I nearly froze the fingers of both hands. We decided not to finish the planned stage, but to stop there for the night.

It was not a particularly restful night, for there were six of us sprawled on the floor of a room about twelve by fifteen feet. The room had a small sheet-iron stove in one corner, a bunk in another, and various articles, such as tables and boxes, along the sides, so the available sleeping space was not great. The hard-bitten old dame who lived at the house, slept on the bunk in the corner, while several Mongol-looking folk slept in the kitchen on another bunk, under which were a number of chickens.

Dawn saw us again on the road. It was still bitterly cold, but fortunately the wind was at our backs and we did not find it so unbearable as when we stopped the previous afternoon. In places the snow had drifted deeply and made heavy pulling for the horses, but we managed to make forty-four miles during the day. One of the drivers froze his face in several places but he did not seem to mind it very much. Their skins must be very tough, for our frost-bites pained us greatly.

As during the previous day's drive, I had much

trouble to keep my eyelashes from freezing together. At intervals I had to pick off the ice which constantly formed on them. Our moustaches and beards were pretty solid with ice most of the time.

Our stop that night was at a village in a deep narrow valley, the rocky sides of which were dotted with pine and spruce. The little village of log cabins and corrals, all under snow, was a typical frontier town. We were not visited by the police here, but on that day, when we had stopped for lunch, a very dirty-looking chap had come in and questioned our soldier about us. I caught the words "Amerikan-sky Expedition" or something of the sort. Then our lad wrote something in a book for the town constable who bothered us no further. We were glad that our soldier lad was with us but we wondered sometimes whether he was sent along to watch us, or to see that we got along without too much trouble. Anyway, he was a pleasant lad and a big help to us. We would have had a fine time telling many and various petty officials about ourselves, in a language which we could not speak. At our night's stop, a fellow who sat looking at us asked me, in French, if I could speak that language. When I said that I could, he shut up like a clam. I haven't the faintest notion why.

On the night of December seventeenth we stopped in a private house which accommodated travellers, with some fifteen or sixteen of whom we shared the floor. It was a cold, clear night, and the next morning was bitterly cold. A thick ground mist hung in the valley, where the snow and ice were warmer than the air. As we made our way along this stretch we

met a convoy of thirty or more one-horse sleighs built like our own. They were bound for Kashagatch and were freighting supplies which appeared to be mostly grain in large sacks, iron traps of large size, a quantity of galvanized pails, and many small iron cots. Later we passed several more sections of this freight train; altogether they must have numbered over a hundred sleighs.

This day's ride was the coldest we had had and it was a constant trouble to keep our hands, faces, and feet from freezing. But we made good time over a well-broken trail on the valley floor and at night came to a large village, where we stayed in a well-built log dwelling, the first plastered house we had found since leaving Urumchi.

There was considerable agriculture in the wide flat basin about this village and we saw harrows and other farm implements in the yard of the house where we stopped. We assumed that they must raise some flax in that section, for we saw a woman spinning linen thread from flax fibres at a place where we stopped for lunch. She used the old style spinning wheel, though nearly every house except the very poorest had a small American sewing machine.

It was very noticeable that in every house at which we stopped there were small religious pictures in the elaborate gold frames characteristic of the Russian Church. These little *ikons* were generally in rather inconspicuous places, but their presence suggested that perhaps the Church, though officially banned by the Soviets, still had a hold on the mass of the Russian people.

All down the big valley in which our route now lay, there were scattered farms, and gently sloping meadows were dotted with haystacks, each protected by a surrounding rail-fence. On the higher hillsides, a growth of larch and spruce timber made contrasting colors, for the dark green of the spruce stood out against the brown of the larch's winter garb. A fall of snow made sleighing easier and took much of the bite from the air. We were in a valley which might have been in northern New York and the whole day's drive was easy and comfortable.

Most of the people in that territory were Russians. We saw few "natives" after leaving Kashagatch, and those we did see were different from the Kirghiz. It was hard to say where one race ended and another began. The family with whom we had lunch one afternoon looked as if they had a bit of Asiatic blood, which showed in the shape of the eyes. But one saw all types among the Russians. Some looked German or Scandinavian, some were dark, and some looked English. In appearance, one of our drivers was a perfect Englishman of the better class, with fair complexion, blue eyes, and good features. It was a constant shock to hear him speak Russian. Our soldier looked like a lad I once knew in the United States.

December twenty-first was some sort of holiday, and in the villages we passed many men and boys who were beautifully illuminated. When Ivan gets tight he gets noisy.

We were gradually emerging from the mountains, and the villages through which we passed seemed older communities than the little hamlets further

south. Houses were still of logs, but many showed attempts at decoration; a few were rather pretentious and boasted glassed-in portions where potted flowers could be seen through the windows. Many of the larger houses, however, probably the homes of former well-to-do people, were badly run-down and seemed unoccupied. The numerous bulbous-domed churches, too, were boarded-up and deserted, except for one or two used as clubs. At Altaiskoe, our last night's halt before Biisk, there were two brick buildings with elaborately decorated fronts. In contrast with the villages we had previously seen, the place had an almost metropolitan air.

On our last day's drive to Biisk, we stopped for lunch at a house where the family was so large that one wondered how they could all sleep in the tiny place. A sort of hanging balcony contained the beds of four or five, though there was only about a foot of space between it and the roof. The old grandmother slept on top of the big brick stove. In the family were three little girls between twelve and sixteen and two of these were real little beauties of a dark, Slavic type. Two of the girls were spinning flax into linen thread, using the same sort of spinning wheel we had seen before. The other youngster boiled water in the big samovar for us. Just before leaving we gave the girls some chewing gum and chocolate, and were greatly embarrassed when they very prettily kissed our hands in gratitude.

Much of the last day's drive to Biisk was in open, rolling country, where snow lay in a white mantle over the plain. We had left the mountains behind and had at last emerged onto the Siberian plains.

Towns could be seen here and there in the distance and long lines of freight sleighs caused us to turn from the road on several occasions. The country definitely began to look more settled.

All that we could see of Biisk in the darkness indicated that it was a big town, with numbers of two-storied brick buildings. A few electric lights in houses showed that the place supported an electric light plant and we began to feel that we were really approaching civilization.

At the police-station, our passports and visas were examined and evidently found in order, for the officer in charge was most pleasant and polite. Then we were conducted by our soldier to a private house, where, after a glass of tea and a bite to eat, we rolled up in our big coats on the floor.

By daylight Biisk looked like quite a large place. There was a wide square in the center of the town and on the streets bordering it were several substantial-looking, two-story brick buildings. Several of the larger buildings were occupied by stores, though they were rather in need of painting. Much of the town seemed unkempt, but the bank, where we went to collect the money on the draft from the Mongol Bank at Kobdo, was clean and modern in its appointments. There were three large churches clustered together near the center of the town but these, of course, were boarded up and unused. The snow-covered roadways were full of deep holes and were very rough.

Biisk seemed a busy place, for there were many sleighs along the streets and the sidewalks were almost crowded in the "downtown" section. We es-

timated the size of the city at between twenty-five and fifty thousand people.

Our train to Novo Sibirsk left about noon and we found our time barely sufficient to pay off our Kashagatch drivers, buy tickets at a little government ticket-office in the business section of the city, check our still rather numerous pieces of baggage and fight our way into a crowded third-class carriage, the only passenger equipment provided on the branch line which ran northward.

The little car was packed with people. Men, women, and children were jammed into three stuffy compartments, each about twenty feet long. There were twenty of us in the compartment in which Clark and I found ourselves. Cross seats on one side with folding shelves above them and still more shelves in a third tier above were used for sleeping. On the other side of the car were single seats which were made up into berths, and above these were other shelves. Clark and I managed to obtain a couple of the second deck shelves, and having "staked our claims" we permitted ourselves really to relax. It was decidedly a relief actually to have boarded a train once more, and as we sat in that crude, third-class railroad compartment, crowded among our simple and kindly fellow passengers, we listened with the keenest pleasure to the irregular click of the wheels as they passed the joints of those remote Siberian rails. Truly, neither of us had ever ridden on any American limited train with a feeling of more pleasure and relief than we rode that day toward Novo Sibirsk far in the interior of Siberia.

In the course of this narrative I have mentioned, a number of times, the letter given me by Senator William E. Borah. Without a doubt, those few typewritten words on the letter head of the United States Senate, ending with the simple signature of the Senator from Idaho, proved to be far and away the most important bit of our equipment. A hundred times it was useful; several times it was practically indispensable; and once it played its part in releasing us from the hands of those Mongols who had captured us and had held us prisoners for nearly three uncertain weeks.

In planning the expedition, I had realized that we might need just such a letter, for we planned to enter Russian territory, and so I called on Senator Borah in Washington, explained our plans, and asked him for the letter. He belittled the importance of such a document, but agreed to my request, for which both Clark and I will be eternally grateful.

Having gotten the letter and otherwise made ready, we started on our way. I had planned to approach the Soviet Ambassador in London in order to procure the necessary visas and permits, but I learned, when I reached the British capital, that the ambassador was away and that the Consul General had no authority to issue us the permission we desired, in the absence of his chief. As a result of that we went to Paris, and there obtained an interview with Mr. Rakofsky, the Soviet Ambassador to France. Our principal object, as I have explained, was to obtain permits to enter and travel in the Russian Pamirs, which are military territory, and normally closed to foreigners. We presented Senator Borah's letter to

United States Senate

WASHINGTON, D. C.

January fifth
1926

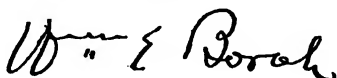
To Whom This Letter May Be Presented:

The bearer of this letter is Mr. William Morden, of Chicago, Illinois, U.S.A.

Mr. Morden, accompanied by James L. Clark, Assistant Director of the American Museum of Natural History, is preparing to head an expedition with the view of collecting zoological specimens for the American Museum of Natural History. He expects to visit certain portions of the Far East, possibly desirous of entering the territory of Russia, China and other countries. Mr. Morden is a gentleman of high character and is not interested in any political matters or questions but solely in the matter of securing specimens as above stated.

Any courtesies which may be extended to him will be greatly appreciated by the undersigned.

Very respectfully,



Mr. Rakofsky, and were told by him that on the strength of it he would be glad to give us passports for Russia, but that he could not issue us permits for the Pamirs without especial authority from Moscow.

The result was that he sent a copy of the Senator's letter to Moscow, and in ten days we had our permits to enter the Pamirs. However, the Moscow authorities requested that we use one of two routes that enter the district from the north, whereas the route we were to take forced us to enter from the south. Consequently, taking the bull by the horns, we asked Mr. Rakofsky to request Moscow to notify the frontier guards at all places in the district, so that we might have no difficulty when we arrived. While we did not know positively when we left France that our request would produce the desired results, we banked on it, and had not the slightest difficulty once we had crossed the Russian Pamir border. Thanks to the effect the letter had had in Paris and also in the Pamirs themselves, where we exhibited it to every officer who questioned us, our visit to the home of *Ovis poli* was a complete success.

By the time we had completed our *Ovis poli* hunt, we had had occasion to thank our luck twice for obtaining the Borah letter, and now we packed it away, feeling certain that it had done its job. However, when we had reached Kashgar, it was once more presented—this time to the Russian Consul. As a result, he was most courteous, and assisted us in every possible way. Again, at Urumchi, the same thing occurred, so that, by now, the letter had come to be, as Clark called it, the "magic wand."

Unfortunately for us, the Mongols, into whose hands we fell, not only knew nothing of Senator Borah, but also were completely ignorant of America and Americans. The result was that the letter had no effect whatever on them. But, once they had decided to take us to Kobdo, the "magic wand" was put into immediate use again. The Russian Consul was undoubtedly impressed by it, and it was he who obtained our release. Furthermore, it may be that he would not have done so had he not been convinced of the importance of our papers, of which the Borah letter, by this time, had grown to be the chief.

From Kobdo on, we were more or less constantly in touch with the Russians, and on every possible occasion we flashed that letter before their eyes. Ultimately, when we had reached the Russian border, it was that letter that procured for us the permission we needed to take our motion picture cameras, our film, and our field glasses—all of which were prohibited articles—over the line.

By the time we had gotten to the railroad at Biisk, we had reached the conclusion that the letter would not be required to open more doors. However, in that we were mistaken. We used it on every official who seemed likely to hold us up. We flashed it on commissars, on police, and on railroad officials. Furthermore, it worked. Senator Borah's name seemed to be perfectly familiar to every intelligent Russian upon whom we had occasion to try that letter.

On the train that first evening out of Biisk—before we had reached the main line—I was talking to a

German-speaking Russian who asked if there had not been a revolution in the United States prior to our departure. I assured him that nothing of the kind had taken place, but one of the other Russians who was listening to our conversation suggested that when I returned to America I might say that the Russians are not such savages as American newspapers made them out to be. These fellows all seemed to be very decent and likeable chaps, but it was obvious that some rather strong propaganda about America had been prepared for them and for their kind.

At Novo Sibirsk the German-speaking Russian we had met on the train offered to stand by and be our translator until we could find someone else. Had it not been for him we would have had some very serious linguistic difficulties, but as it was we learned that there was an express train due east on the following morning—Christmas Day. We were fortunate in that, for the through trains, apparently, run each way only twice a week.

Our Russian friend led us to a big, three-story, concrete building which served as the City Hall. There the official suggested that we go to the German Consulate, where we might obtain the assistance we needed in getting our passport visas. The German Consul was most considerate, and told us that his office frequently assisted travellers of various nationalities, for the only other Consul located in the city represented the Japanese. In the hands of a secretary from the Consulate we returned to the police station, and presented our papers, with the letter from Senator Borah boldly displayed among the rest.

The police officer proved to be a very decent chap and agreed to get our visas ready that day. He even agreed to sign them without waiting for our photographs, when the German secretary assured him that he would see that the pictures were taken and delivered to the police. All this was important to us, for the train was due through Novo Sibirsk on the following morning, and we had no desire to remain in the city for nearly a week, as a delay in our papers would have compelled us to do. After the important assistance that Senator Borah's letter had rendered us before, this seems almost a trifle, though it did not seem so to us at the time. We could hardly have borne with equanimity the sight of a train steaming eastward toward Peking without us, as we probably would have had to do without the assistance of our "magic wand" and of the German Consulate.

The hotel to which we were directed was above some stores in a two-story brick building. For ten roubles we obtained a room, though the miscellaneous furniture and the two iron cots with mattresses but no bedding did not seem to warrant the rate that was charged. However, none of the inns at which we had stopped during the preceding month had supplied beds at all, so we did not take the lack of bed clothes seriously. Once in our room I indulged in the luxury of a shave—the first in nine months. My face emerged thin and white from behind my whiskers, and I wondered if Clark had not been wise in deciding to retain his for a time.

Novo Sibirsk is the new name for Novo Nikolaevsk. The city is situated on the River Ob at the important junction of the Trans-Siberian main line and the

branch leading south to Biisk and Semepalitinsk. The population is about one hundred thousand, and the location of the city at what is almost the geographical center of Siberia makes it an important point. It is sprawled out somewhat carelessly with many log houses, though a few concrete buildings have been erected during the last three or four years. These new structures are well built, and the peculiar architecture that has developed since the revolution is picturesque and seems suited to the country. One building in particular—Lenin House—a large grey concrete structure of four stories, used as a Workmen's Council Building, is an excellent bit of work. We saw another four story building under construction and were told that it was a hotel. It is to be hoped that the report was true, for the city is sadly in need of one. Despite the size of the place and its considerable area there are no tram lines, and there are only eight or ten motor cars. The streets are not the best in the world and in wet weather are sometimes almost impassable.

We were told in Novo Sibirsk that in recent years wolves have become a pest in Siberia. Before the revolution the authorities regularly poisoned them, and the guns of the peasants took a considerable toll. But now the Government does nothing about them, and the peasants are no longer permitted to have guns except on payment of a fee too great for them to afford. The result is that wolves sometimes come boldly into villages, and in the country districts peasants never travel by night, and usually travel in pairs by daylight.

Beggars—many of them children—were numerous.

We were told that the number had increased in recent years, but on the other hand we saw people on the streets carrying excellent looking food home from the market; we saw beautiful fruit from the Crimea, and chocolate and candy was for sale. Prices seemed high for some articles and low for others, but foreign-made goods were not in evidence in any of the stores.

The churches were either closed or were used as schools and clubs. It was noticeable, however, that Christmas was very apparently a holiday.

Our train, which was due at seven in the morning, did not arrive until four in the afternoon. Nor could we purchase our tickets and check our baggage until three, for the vacant space on the train had to be wired to Novo Sibirsk from the preceding stop before we were certain that we would be able to buy tickets at all. But once we had obtained our tickets, our baggage was painted with the check numbers in large figures, and we were ready to depart.

On the Trans-Siberian Railway express trains, one buys a place ticket in addition to the ordinary ticket entitling one to transportation. The place ticket simply gives the car number and when the train arrives one is assigned a berth which is paid for on the train. The fare seemed quite reasonable, for it cost the two of us only eighty-five roubles for the twenty-five hundred mile journey from Novo Sibirsk to the Manchurian border. Our fourteen pieces of baggage were checked at a cost of one hundred and forty roubles plus thirty roubles for insurance on a value of five thousand roubles. We were told that it is customary to insure baggage even for short

journeys and though the settlement of claims takes some time, they are always settled, especially those of foreigners.

Once aboard the train we found a guard and a waiter who spoke German. Our ignorance of Russian was something that was forever before us, though we always managed to find someone who could speak English or French or German. Had we been less fortunate our journey might have been decidedly awkward. As it was we had nothing whatever of which to complain.

Even as it was we had some amusing experiences because of our failure to understand. The train stopped one day at a station, and Clark and I got out to walk up and down the station platform. While we were thus engaged a Russian soldier approached with his hand outstretched, and sputtered something unintelligible at Clark. What the outstretched hand meant Clark had no means of knowing, so he seized it heartily and shook it with all the enthusiasm he would have used in greeting a long lost friend.

The Russian was obviously perturbed, and orated still more, while Clark, not to be outdone, replied with all the warmth of which he was capable, assuring the fellow of his pleasure at meeting him. Neither, of course, knew a thing of what the other meant, and then the whistle sounded. We turned about, waved to the soldier and boarded the train, while the Russian looked dumbly after us. We learned later from another passenger that he had asked to see our passports, but at the time we had not the faintest notion of what it was all about.

We revelled in the comfort of that train. We lay back in the clean upholstered compartment and watched the scenery slide by with more pleasure than we had experienced in travelling in months. We looked forward eagerly to Peking, though every now and then we felt as though we should be expending more energy—that we should be looking over our kits or interviewing police officers or rushing somewhere else. It was hard to realize that only a few weeks before, we had been pretty close to death at the hands of Mongols. As yet we could not completely relax.

Then, at last, we reached the Manchurian border, and ran into trouble once more. Our goods had been permitted to travel thus far in bond. But now, it seemed, we could not get permission to take the bonded articles out of Russian territory. We talked English and French and German, and we thought things that could have been expressed only with difficulty in any of the three languages. None of it made any impression, for the Russian Customs officers failed utterly to understand us. Then, by chance, I found a Russian who was in the employ of the Chinese Customs, and learned that he spoke English. So I got him to translate Senator Borah's letter in order that the Russian Customs officers might recognize the importance of the piece of paper that I had been energetically thrusting forward in my unsuccessful struggles to get them to understand.

It was almost amusing to see the effect of that translation. So much were they impressed that the difficulties that had existed faded immediately from sight. Our baggage began to move. The seals were

cut, and over the line our belongings went without even the formality of an inspection.

We congratulated ourselves again and silently thanked Senator Borah, but it was too soon. It is true that the baggage was out of Russia, but it was not yet in China, and the Chinese officials objected to letting it in. So the letter was forthcoming once more. The Russian who had translated the letter had obviously been impressed, but his chief seemed not to have the requisite authority to pass the stuff. However, he got some still higher officer on the telephone and proceeded to read the letter to him. I overheard a part of the conversation, which resulted in our baggage being passed into Manchuria—again without inspection.

Now, with Russian territory definitely behind us, we felt certain that the "magic wand" could serve us no further. But once more we were mistaken. When we reached Chang-Chung, it was necessary for us to change to the Southern Manchuria Railroad—a Japanese operated line. We were required, of course, to check the baggage again, but when we tried to do so, a somewhat impertinent Japanese baggage man refused to accept it for transport on a passenger train. However, we had met a Japanese gentleman on the Trans-Siberian train, and at my request he very kindly translated the Senator's letter for the edification of the baggage man. I suspect that the translator was a person of some importance in Japan, and it may be that he added a word or two of advice. But whether he did or not, the Gordian knot was cut again, and the baggage checked—not merely to Mukden, but actually to Peking, a

procedure which we were given to understand was unusual to a degree.

From Chang-Chung to Peking we made our way. Our troubles were over. Our difficulties were at an end, and now at last, we felt that we had earned a rest. We discussed our trip from every possible angle, and on some things we did not quite agree. But on one matter above all others we were in hearty accord. We both realized that of all the outside assistance that we had received, the greatest—easily—had been brought about by that short and simple letter, written on the stationery of the United States Senate—a few score typewritten words, addressed to no one in particular. The words might readily have been written by anyone, but the effect was not caused by the letter itself. It was the signature of Senator William E. Borah that had been “the magic wand.”

Even before we stepped from the train at Peking, and gathered together the baggage that we had brought so far, our Asiatic wanderings seemed almost like a dream. For nine months we had made our way across the most mountainous and one of the most barren regions of the earth. Behind us lay a hard and tortuous trail, eight thousand miles long, from the valleys of northern India through the Himalaya, the Pamirs, and the Thian Shan, northward to Mongolia and Siberia, then eastward across the almost endless steppes to Manchuria and China. We had struggled over mountains and glaciers, through gorges and across deserts. We had hunted over thousands of square miles of valleys and mountainous ridges. We had managed to make our way

through practically forbidden territory, and had been captured by a people so low in the scale of civilization and so uninformed that the name of the continent from which we came was a word absolutely without meaning in their ears. We had struggled through bitter winter weather for a thousand miles to reach the railroad. We had been troubled by difficulties that more than once had seemed practically insurmountable, but now, with the trophies of our journey safe and on their way to the Museum in whose name we had come—with ourselves alive and our purposes accomplished—neither of us had a single vain regret. We knew that through our labors and our difficulties, we had attained the ends that we had sought.

FOREWORD FOR APPENDIX I

IN the following table I have made an attempt to give a fairly accurate account of the distances between camps during our journey from Srinagar to Biisk, together with some additional information. Due to the fact that we often hunted while on the march, the hours given are sometimes only approximate. Furthermore, the hours refer to the time it took Clark and me, for it was often practically impossible to keep a record of the time of our coolies and caravans when they were not travelling with us. In a few cases records of altitude and temperatures were not taken, and because of lack of space I have been forced to use symbols to explain the means of transporting our kit. Our own methods of transportation have not been given as the text explains that in sufficient detail.

W. J. M.

APPENDIX I

SYMBOLS USED IN THE TABLE OF CAMPS AND MILEAGES

- C—Coolies
 H—Horses
 M—Mapas (2-wheeled carts)
 O—Camels
 S—Sleighs
 T—Telegas (4-wheeled carts)
 W—Troikas (3-horse wagons)
 Y—Yaks

APPENDIX I

CAMPS AND MILEAGES

<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kit.</i>	<i>Alt.</i>	<i>Min. Temp.</i>
1	On Jhelum River	Mar. 30	20	13¾	House Boat	5212	50°
2	Bandipur	" 31				5212	50°
3	Tragbal	Apr. 1	12	5¾	C.	9340	50°
	Tragbal Pass					11586	
4	Koragbal	" 2	15	9	C.	8400	38°
5	Gurais	" 3	14	7½	C.	7940	34°
6	Peshwari	" 4	14	8	C.	9000	30°
7	Burzil Chauki	" 5	11½	8	C.	11150	30°
	Burzil Pass					13775	
8	Sirdarkoti	" 6	10	9½	C.	12000	17°
9	Godai	" 7	22½	14¼	{ C.12 H.10 }	9100	36°
10	Astor	" 8	17	6	H.	7800	40°
11	Mushkin	" 9	17	6½	H.	6400	52°
12	Bunji	" 10	19	8½	H.	4640	50°

<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kit.</i>	<i>Alt.</i>	<i>Min. Temp.</i>
13	Safed-parri	April 11	17	5	H.	5400	45°
14	Gilgit	" 12	19	6	H.	4890	45°
15	Nomal	" 14	18	5½	H.	5500	55°
16	Chalt	" 15	14	5	H.	6560	52°
17	Minapin	" 16	17	7½	C.	7080	48°
18	Baltit	" 17	15	5½	C.	8000	42°
19	Gulmit	" 18	20	9½	C.	8000	37°
20	Khaibar	" 19	20	9½	C.	8800	37°
21	Gircha	" 20	11	3	C.	8750	36°
22	Misgar	" 21	14	5¼	C.	10150	20°
23	Murkushi	" 22	15	6½	{Y. H.}	11950	18°
24	Gulkoja	" 23	9	5½	C.	14000	10°
	Mintaka Pass					15430	
25	Lupgoz	" 24	13	9¾	C.	13400	20°
26	Mintaka				{Y. O.}		
	Karaul	" 25	5	1½	{O.}	13300	18°
27	Peyik	" 26	13	4½	{Y. O.}	12700	10°
28	Peyik-Jilga	" 27	10	5	H.	14400	1°
29	First Pamir						
	Camp	" 30	16	6	H.	14000	10°
30	Kizil-Rabat	May 1	15	4	H.	12275	14°
29	First Pamir						
	Camp	" 2	20	6	H.	14000	25°
31	Little Pamir	" 7	23	10½	H.	14100	15°
32	Ak-tsoi	" 8	8	4½	{Y. O. H.}	14200	20°
33	Ak-chiragh	" 10	16	10¾	{Y. O. H.}	13200	28°
34	Dung-gelduk	" 11	11	5½	{Y. O. H.}	13600	18°
35	Murghab River	" 15	20	8½	{Y. O. H.}	13500	30°
36	Kuzgun	" 17	15	7	{Y. O. H.}	15000	28°

APPENDIX I

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<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kil.</i>	<i>Alt.</i>	<i>Min. Temp.</i>
37	Ak-jilga	May 20	7	6½	{ Y. O. H. }	14700	20°
38	Mus-Karaul	" 31	14	8¾	Y. & O.	13500	15°
39	Lang-tai	June 1	22	14	Y. & O.	11200	30°
40	Gez-Karaul	" 3	30	8¼	Y. & O.	8900	34°
41	Tokoi	" 4	12	8½	O.	8200	40°
42	Tashmalik	" 5	20	7½	O.	5060	50°
43	Kashgar	" 6	35	8½	O.	4400	65°
44	Faizabad	" 18	40	12	M.	3910	65°
45	Kara-Yulghun	" 19	34	12½	M.	3700	70°
46	Ordeklik	" 20	20	8½	M.	3700	65°
47	Maralbashi	" 21	41	17	M.	3690	60°
48	Tumshuk	" 23	25	9	M.	3500	60°
49	Chilan	" 24	51	12	M.	3000	50°
50	Khangung	" 25	29	6	M.	3050	70°
51	Oi-kol-bazaar	" 26	10	2	M.	3300	60°
52	Aksu (Kona Shar)	" 27	32	11	M.	3525	65°
53	Jam	July 1	26	6¼	M.	3820	70°
54	Abad	" 5	18	6½	M.	4380	60°
55	Tikan-kuruk	" 6	10	3	M.	4800	52°
56	Khurgan	" 10	18	7½	M.	6300	56°
57	Su-terek	" 11	17	7¼	M.	7000	58°
58	Tamgha-tash	" 12	24	6¾	M.	8690	45°
	Muzart Pass					11480	
59	Kain-ya-lak	" 13	20	9¼	H.	8900	38°
60	Shutta	" 23	27	7½	H.	6700	42°
61	Aksu	" 24	16	4¾	H.	6700	42°
62	Agias	" 26	12	5	H.	7000	54°
63	Sok-tokoi	" 27	30	10	H.	5200	52°
64	Kok-turok	" 28	21	7¼	H.	5000	52°
65	(Jilka-jul)						
	(Kok-su Bridge)	" 29	20	6	H.	4500	52°
66	Kara-jun	" 30	27	8	H.	7650	54°
67	Kwor-dai	" 31	15	5½	H.	8600	45°
	Koor-dai Pass					11000	
68	Jug-a-lung	Aug. 1	15	6	H.	8200	34°
69	Kargai Tash						
	(First camp)	" 2	10	3½	H.	10100	34°
70	Kargai Tash						
	(Second camp)	" 5	10	5	H.	9100	35°
71	Karok-tubalak	" 9	15	5¾	H.	8100	27°

<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kit.</i>	<i>Alt.</i>	<i>Min. Temp.</i>
72	Kiang-su	Aug. 11	18	6½	H.	8200	39°
73	Kiang-su Camp No. 2	" 15	5	1¾	H.	8900	36°
74	Tuluk-shan	" 17	13	7¼	H.	7750	32°
75	Kok-su Valley	" 20	20	9¼	H.	8100	34°
76	Kok-su Valley	" 21	5	2	H.	8000	32°
77	Muzda-Mus	" 23	12	5	H.	8700	42°
78	Bes-Mainik	" 29	14	5	H.	8700	32°
79	Kiang-su	" 30	10	3½	H.	8400	32°
80	Bes-Mainik	Sept. 1	12	4¼	H.	8700	56°
81	Ya-Mat	" 3	13	7	H.	8600	40°
82	Upper Yulduz	" 5	27	9	H.	9200	28°
83	Chung Jug-alung	" 6	14	5¼	H.	8200	36°
84	Kofta-Ka Bulak	" 10	30	10	H.	9500	43°
85	Narod	" 11	36	12½	H.	8350	41°
86	Narod jilga	" 12	5	2	H.	9000	—
87	Little Yulduz Valley	" 13	13	5	H.	8600	28°
88	Little Yulduz Valley	" 14	28	9½	H.	8850	27°
89	Tost-ta	" 15	26	8	H.	9500	10°
90	Tost-ta No. 2	" 18	3	2	H.	9500	2°
91	Kit-Nomen	" 19	36	12	H.	8500	16°
92	Wobu-Omu	" 20	20	8¾	H.	5600	26°
93	Kara Shar (Serai)	" 21	55	11¾	H.	3900	38°
94	Kara Shar (in Garden)	" 22	0	—		3900	—
95	Tawilgha	" 25	24	5¼	M.	4100	42°
96	Ushaktal	" 26	24	7	M.	4000	40°
97	Kara Kizil	" 27	34	8¼	M.	4800	45°
98	Kumush	" 28	21	4¾	M.	3300	45°
99	Arghai Bulak	" 29	34	8	M.	4150	60°
100	Subashi	" 29	15	3¼	M.	560	66°
101	Kaghackak Kerez	" 30	14	4		175	80°
102	Bejantura	" 30	11	3½		— 910	46°
103	Turfan	Oct. 1	20	5½		+ 80	60°
104	Be-yan-ho	" 2	42	13¼		3250	72°
105	Tsai-o-pu	" 3	45	10		3800	56°
106	Urumchi	" 4	31	7¼		3000	54°
107	Ku-mu-ti	" 11	15	4		2100	46°

Kit in mapas sent over different route

<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kit.</i>	<i>All.</i>	<i>Min. Temp.</i>
108	Fu-kang	Oct. 12	30	6	T.	1900	42°
109	San-tai	" 13	54	12½	T.	2300	45°
110	Kuchengtze	" 14	54	10½	T.	2500	20°
111	Chi-tai	" 23	23	9½	O.	4000	35°
112	Out on Plain	" 24	15	7¼	O.	3000	32°
113	On Plain	" 25	27	9	O.	3000	26°
114	On Plain	" 26	30	12	O.	3500	6°
115	On Plain	" 27	23	11	O.	4000	16°
116	Kainar Bulak	" 28	20	8¼	O.	3400	20°
117	In foot hills	" 29	28	12	O.	4300	20°
118	In canyon of foot hills	" 30	10	4½	O.	3700	26°
119	In Valley of Altai Spur	" 31	25	11½	O.	4300	20°
120	On plains in snow	Nov. 1	23	11	O.	5400	17°
121	In hills	" 2	18	8	O.	5650	5°
122	On plains in snow	" 3	35	14	O.	5500	0°
123	On plains	" 4	37	16¼	O.	5450	4°
124	Ji-ji-ho					Not	Not
	(Mongol Tent)	" 6	11	4½	O.	taken	taken
125	Ji-ji-ho					Not	Not
	(Our own tent)	" 8	—	—	—	taken	taken
126	Up-tsun					Not	
	(Mongol camp)	" 9	25	10	O.	taken	— 2°
127	Up-tsun						
	(Mongol Post)	" 10	6	2½	O.	5400	— 8°
128	Hul-ta	" 12	22	9	O.	7300	— 12°
129	Hulum Nor	" 13	20	18	O.	8000	— 11°
130	Yurt	" 15	25	13½	O.	7100	— 13°
131	Yurt	" 16	20	12	O.	7800	— 8°
132	Yurt	" 17	30	6	O.	7800	— 20°
133	Yurt	" 18	27	6¾	O.	6300	— 2°
134	Yurt	" 20	25	5	O.	5100	+ 6°
135	Yurt	" 21	23	5	O.	5100	+ 16°
136	Tsagan dali	" 22	20	5	O.	4400	
137	Kobdo	" 23	30	7	O.	5300	— 2°
138	(Lost)	Dec. 1	45	11½	W.	5850	— 6°
139	Hango	" 2	5	1½	W.	6300	— 4°
140	Tulba	" 3	50	9	W.	7500	— 10°
141	Saksai	" 4	45	9½	W.	6300	— 14°
142	Ulan-kusa	" 5	25	5	W.	6100	— 16°
143	Kholik	" 6	33	8	W.	7400	— 34°

<i>Camp No.</i>	<i>Place</i>	<i>Date</i>	<i>Miles</i>	<i>Time hrs.</i>	<i>Trans. Kit.</i>	<i>Alt.</i>	<i>Min. Temp.</i>
144	Tashanta	Dec. 7	33	6	W.	6500	-24°
145	Kashagatch	" 8	30	6	W.	6100	-16°
146	Village	" 14	25	5½	S.	6300	-44°
147	Village	" 15	44	14¼	S.	4300	-10°
148	Village	" 16	40	9	S.	3400	- 5°
149	Village	" 17	32	7	S.	2300	-25°
150	Village	" 18	40	12	S.	2750	-34°
151	Village	" 19	40	12	S.	4600	-19°
152	Village	" 20	35	8½	S.	1500	+ 2°
153	Altaiskoe	" 21	30	7	S.	700	0°
154	Biisk	" 22	47	9½	S.	800	+ 2°

FOREWORD FOR APPENDIX II

IN the following compilation I have made no attempt to be exhaustive. Expeditions entering Central Asia from other points than Kashmir would probably find it desirable to carry many articles that were not useful to us, and possibly to eliminate others that we considered necessary. Even those who enter over the Gilgit-Hunza route might, because of different goals and purposes, supply themselves differently. It was only with the thought of itemizing the more important parts of our equipment that served us well—or the reverse—that this list has been prepared. It was necessary for us to provide against a very wide range of temperatures, but owing to the scarcity of transport on the Gilgit route, it was essential to limit our equipment as much as possible. Consequently, those entering the interior over routes offering better transport facilities would be able to outfit more elaborately than was possible for us.

W. J. M.

APPENDIX II

RIFLES AND AMMUNITION

<i>No.</i>	<i>Description</i>
3	Springfield .30-'06, Sporter, with sling. Clark and I each had a rifle and an extra one was carried for use in case of an accident. We never had occasion to use it. These rifles were perfectly satisfactory but personal preference might suggest some other arm. Any standard rifle of comparable power could be relied upon to do the necessary work.
1	Marble game getter with holster. Used rarely.
1	.45 Colt automatic pistol, with regulation U. S. Army holster, and pistol belt. This calibre is now prohibited in India. Never used.
1	.22 Colt automatic pistol with covered holster. Almost never used.
1	Telescope sight. Hensoldt 2 $\frac{3}{4}$ x, Noske mount. The mount was excellent. A telescope sight is very useful for shooting in bad light, but too delicate to withstand the rough usage and the extremes of temperature to which ours was subjected. I do not mention our metallic sights for everyone has his own preference.
3	Saddle scabbards (U. S. Army issue) with leather hoods which made them into very effective cases. Excellent.
2	Cleaning kits.

- 12 Clip pockets.
- 1,000 Rounds .30-'06 cartridges.
Western 180 grain open-point boat-tail (M. V. 2,700 feet per second). A Museum collecting expedition should have fully half of these full jacketed, for the open point sometimes damages specimens of the smaller animals. This quantity was found to be fully sufficient and the stopping power of this ammunition was excellent. They were very accurate and uniform; we had no misfires.
- 100 Springfield clips.
- 500 .22 long rifle. Western. More than enough. For Marble game getter and .22 automatic pistol.
- 400 .410 shot shells. Shot sizes 6, 7 and 8. For Marble game getter.
- 100 .410 ball cartridges.
For Marble game getter.
- 50 .45 Colt automatic cartridges.
All ammunition should be sealed in tin for ocean transport. In the field we found it a good plan to distribute ammunition among various boxes of stores, so that loss of one or more containers would not be serious.

FIELD GLASSES, INSTRUMENTS, etc.

- 2 Zeiss 8 x 30 binoculars.
- 1 Zeiss 8 x 40 binoculars.
- 1 Ross telescope 50x.
- 1 Ross telescope 30x.
An extra pair or two of less expensive binoculars might be useful to loan to native guides.
A light telescope tripod similar to those used on rifle ranges would be useful.

- 2 Aneroids, reading to 20,000 feet. One was pocket size. Aneroids should be thoroughly compensated for temperature.
 - 2 Maximum-minimum registering thermometers. Ours would not read below -44 degrees. This was not low enough.
 - 2 Dry Mark VI radium dial prismatic compasses. One of these, at least, should have been a floating compass.
-

CAMERAS AND PHOTOGRAPHIC SUPPLIES

- I Bell and Howell "Eyemo" Standard Automatic Motion Picture Camera.

This camera, which was designed for use without tripod, was thoroughly satisfactory; with a tripod and telephoto lenses excellent results were obtained.

An extra camera, using the same size film, was a part of our equipment but was seldom used. A second camera should be included in the equipment as insurance against accidents.

For the "Eyemo" camera we carried the following lenses:

- I 2" lens, which is standard equipment
 - I 35 mm. wide angle
 - I 3" (not used)
 - I 6" telephoto
 - I 11" telephoto
- I Carrying case for "Eyemo."
The case designed for the camera was not strong enough. It should have been made of sole leather or fibre. This case carried the 3" and the 35 mm. lenses.
- I Carrying case for the 6" and 11" lenses. Both camera and lens cases had sling straps.

- 1 Bell & Howell special, light tripod with leather case.

The tripod was satisfactory, but the method of attaching the camera was awkward and slow.

EXTRA SUPPLIES:

A crank, instead of the usual key, was used to wind the camera. An extra one should have been taken.

- 1 Extra mainspring.

Other spare parts as suggested by the manufacturers.

- 1 Akeley motion picture developing tank.
Very useful for developing test strips in the field.

- 2 Changing bags.

- 20,000 feet, Eastman "par speed" negative film on 100 foot spools for "Eyemo" camera.

Quantity just sufficient.

Film was packed in separate tins, sealed with tape.

Larger tins containing five spools each were hermetically sealed.

Temperatures ranging from +90 to -44 were encountered without affecting the film.

- 12 Rolls Eastman Adhesive Tape.

- 2 Goerz Tenax $3\frac{1}{4} \times 4\frac{1}{4}$ still cameras, for roll film.
The lens were f. 6.3. anastigmat. Excellent.

- 1 Light metal tripod with leather case.

- 300 Rolls—12 exposure Eastman Kodak film. Sufficient. Part of this film was packed in individual tin containers, sealed with tape. This kept better than the portion packed in the ordinary tropical packages, because the tins could be retaped after the exposed film was replaced in them.

DEVELOPING SUPPLIES

A most useful kit would be an inexpensive Kodak of about 4 x 5, about two dozen rolls of 3 or 6 exposure film, and a Kodak developing tank, printing frame and a supply of some daylight printing paper, together with the necessary chemicals in powder form.

This outfit could be packed as a unit and used for taking portraits of local officials, which in many cases, would be better than giving presents.

TENTS AND CAMP EQUIPMENT

- 2 7' x 7' "Everest" pattern "Whymper" tents, with flies, jointed poles, and mosquito nets. Benjamin Edgington, London.
Excellent, but should be heavily reinforced at the corners. The flies were used principally as awnings and should have been arranged for this purpose. Iron pegs are necessary. The tents complete with flies, poles, and pegs weighed slightly less than fifty pounds each.
- 3 Light servants' tents. Rented in Kashmir. These were necessary because of the seven Kashmiris with us. Four men would have been enough. We sent three back from Kashgar.
- 2 Woods "Arctic" sleeping robes. Excellent.
- 2 Heavy double Yaeger blankets (Camels' hair). Very warm for their weight.
- 2 Small feather pillows.
- 2 "Alligator" ponchos. 66" x 90"
Useful as ground sheets, or as slickers in emergencies.

- 2 Large "numdahs."
These native felt blankets were bought in Urumchi and were especially useful during very cold weather.
- 2 Air mattresses.
- 4 Stonebridge candle lanterns and candles.
- 2 "Rhoorkie" demountable chairs.
- 2 "X" pattern folding-tables. Small size.
- 1 Beautifully nested set of aluminum cooking utensils. The cook took one look at this and purchased what he needed at a bazaar.
- 2 Stanley quart-size vacuum bottles, with leather slings.
- 1 "X" type folding bath.
- 2 Small aluminum wash basins with leather or canvas covers.
In these we packed out personal toilet articles.
- 1 Medicine chest. Burroughs Wellcome & Co., London.
The contents were selected under the advice of a physician familiar with Central Asian conditions. Additional supplies of such common remedies as castor oil, boric acid, iodine, and an assortment of bandages, absorbent cotton, lint, and adhesive tape were carried for use in the event of minor ailments among members of the caravan and other natives.
The "Whymper" tents were packed in canvas bags furnished by the tent maker. These bags were not heavy enough and should have been reinforced with leather. The servants' tents were merely rolled.
The bedding was transported in heavy, waterproof duffle bags.
Yakdans, or small leather-covered wooden trunks,

which are very strong and comparatively light, were purchased in Srinagar, and used as containers for most of the kit and supplies. The padlocks for these should have been operated by a single key. Such locks cannot be obtained in Kashmir. These Yakdans are the usual equipment and are the best and cheapest articles of the kind.

2 Duffle bags. Waterproof.

Excellent for carrying clothing.

There are customs to follow in outfitting servants. The word of the outfitting company should be relied upon in such matters.

We found that in almost all matters the advice of Cockburn's Agency, Srinagar, was excellent.

CLOTHING AND PERSONAL EQUIPMENT

- 3 (each) Suits of light Yaeger woollen underwear.
- 3 " Suits of heavy Yaeger woollen underwear.
- 6 " Pairs heavy woollen socks.
- 6 " Pairs light woollen socks.
- 2 " Pairs extra heavy lumbermen's socks for use with rubbers.
- 2 " Pairs stout hunting shoes, hob-nailed.
(High boots are unnecessary.)
- 1 " Pair "Bean" rubber shoes, with leather uppers.
Very useful when the weather is wet and not too cold.
- 1 " Pair fleece-lined "Gilgit" boots. (Purchased in Srinagar.)

These are satisfactory but not so good as the felt boots of Dzungaria, Mongolia, and Siberia, but the latter cannot be obtained in Kashmir.

- 1 (each) Pair Kashmiri *chapplies*, with two pairs of leather socks. *Chapplies* are sandals, and are very comfortable for walking.
- 1 " Pair camp slippers.
- 1 " Pair chamois drawers.
- 2 " Pairs heavy Mackinaw trousers. These trousers had a gusset of light material inserted at the bottom of each leg, and tapes tied them tightly just above the ankle. They were much more satisfactory than breeches or slacks. They should have been reinforced with light leather at the knees.
- 1 " Pair "Burberry" gabardine ski-ing trousers. Excellent for all uses.
- 1 " Pair khaki slacks.
- 1 " "Durbar Suit." We used ordinary business suits, white soft shirts and light presentable shoes. This kit was essential when meeting officials.
- 2 " Pairs spiral puttees.
The native Kashmiri design is excellent.
- 1 " Wide, saddle-leather belt.
- 2 " Khaki (cotton) shirts.
- 3 " Woollen shirts.
- 1 " Light sweater.
- 1 " Chamois windbreak, with knitted wristlets, neck band, and waistband. Excellent.
- 1 " Heavy sweater.
- 1 " Fleece-lined three-quarter-length coat.
An oilskin inner lining condenses moisture and is very cold.
For very cold weather the long *pushtin* of the Turkis is better.

- I (each) "Alligator" slicker.
- I " Pair "Alligator" oilskin pants.
These were useful during cold, driving rains.
- I " Solar topi.
Necessary for the first part of the journey.
- I " Soft felt hat.
- I " Soft woollen hat.
- I " Fur-lined cap with neck piece, ear pieces, and visor.
It is essential that the neck piece and ear pieces should be generous. If they cover the chin, so much the better.
- I " Knitted helmet (for sleeping).
- 2 " Pairs buckskin gloves.
- 2 " Pairs heavy woollen gloves.
- I " Pair heavy, fur-lined mittens.
- 4 Pounds of Kashmiri hob-nail.
These were used for the boots and *chapplies* of the entire party.
- 2 (each) Skinning knives.
- I " Money belt.
- 2 " Bath towels.
Khaki colored towels do not show the dirt.
- 2 " Large pocket knives, with can opener, et cetera.
- I " Canteen, quart size. Silver-plated, felt-covered, with leather sling, and metal snap hooks for mounted use. Silver plating permits the carrying of cold tea in these canteens.
- I Small tool kit.
The assortment should contain, in addition to the usual simple tools, a leather punch, a set of sight files, a whetstone, assorted small drills, two or three hacksaw blades, a cold chisel, a small lead

hammer, and a box of assorted screws, rivets, and nails. Emery cloth is likely to be useful. A bottle of "Ambroid" cement is certain to come in handy. Small pieces of leather and canvas, assorted needles and thread, and a wax-end should be included.

2 (each) Pairs large snow glasses.

We found Crooke's B-2 glasses excellent.

Snow glasses for the coolies were supplied by the outfitting company.

I " Writing case, containing diaries, paper, pens, pencils, et cetera.

I " Case for papers, carried in personal yakdan.

I " Half-pint flask.

I " Housewife.

I " Rucksack.

Carried by shikaris.

I " U. S. Army issue saddle.

Fittings, where screwed, should be riveted. Special cinches should have been provided, as the regular cinch proved too long for the small Himalaya ponies.

I " Pair U. S. Army issue saddle bags.

I " U. S. Army issue bridle, curb unnecessary. Like the cinches, these proved too large and had to be adjusted.

MAPS

Map of the Himalaya Mountains and Surrounding Regions.

Scale 1 : 2,500,000. Published by the Survey of India.

India and Adjacent Countries. Sheet No. 42, The Pamirs and No. 51, Yarkand. Published by the Survey of India.

Thacker's map of Jumu and Kashmir. Published by Thacker, Spink & Co. Calcutta.

Central Asia, sheet No. 21, published by the Geographical Section, British General Staff.

The above maps may be purchased from Sifton, Praed & Co., Ltd., London. Stein's maps of Chinese Turkestan and Kansu may be obtained from the Survey of India, Dehra Dun, India, but the collection is cumbersome for use in the field.

BOOKS

Across the Roof of the World, by P. T. Etherton, published by Constable & Co., London, 1911.

Chinese Central Asia, by C. P. Skrine, published by Houghton, Mifflin & Co., Boston, 1926.

Chinese Turkestan, by P. W. Church, published by Rivingtons, London, 1901.

East of the Sun and West of the Moon, by Theodore and Kermit Roosevelt, published by Charles Scribner's Sons, New York, 1926.

In the Heart of Asia, by P. T. Etherton, published by Constable & Co., London, 1925.

Record of Big Game, published by Rowland Ward, London, 1922.

Routes in the Western Himalaya, Kashmir, etc., Vol. I, by Major Kenneth Mason, published by the Survey of India, Dehra Dun, India, 1922.

Ruins of Desert Cathay (two vols.), by Sir Aurel Stein, published by Macmillan & Co., London, 1912.

Scientific Results of Second Yarkand Mission (Mammalia), by W. T. Blanford, published by Sup't of Gov't Printing, Calcutta, 1879.

The Great and Small Game of Europe, Western and Northern Asia and America, by R. Lydekker, published by Rowland Ward, London, 1901.

The Central Tian Shan Mountains, by Dr. Gottfried Merzbacher, published by John Murray, London, 1905.

Travel and Sport in Turkestan, by Captain Price Wood, published by Chapman & Hall, Ltd., London, 1910.

Through Deserts and Oases of Central Asia, by Ella Sykes and Sir Percy Sykes, published by Macmillan & Co., Ltd., London, 1920.

Unknown Mongolia (two vols.), by Douglas Carruthers, published by Hutchinson & Co., London, 1913.

Wild Sheep of the Old World and Their Distribution, by Prof. Peter Sushkin, a paper from the *Journal of Mammalogy*, August, 1925.

Where Three Empires Meet, by E. F. Knight, published by Longmans, Green & Co., London, 1893.

Wild Oxen, Sheep and Goats, by R. Lydekker, published by Rowland Ward, London.

Hindustani Simplified, by Sadruddin Bahauddin Syed, published by British India Press, Mazgaon, India, 1919.

I have found the books in this list excellent, but there are many others that might have been included.

W. J. M.

PRESENTS

- 6 6 x prism binoculars (for the most important native officials).
- 6 Non-prism glasses.
- 6 20 x telescopes.
- 6 6 inch sheath knives.
- 6 Large spring clasp knives.
- 12 Steel trench mirrors.
- 6 Wrist watches.
- 1 Box of miscellaneous toys, rubber balloons, et cetera.

Three or four Kashmiri silk turbans or scarfs would have been useful for presents for some officials. (These can be bought reasonably in Srinagar.)

MISCELLANEOUS

Chemicals for the preservation of skins

Salt

Arsenical soap

Powdered alum

A set of numbered tags of block tin for identifying specimens—four to six tags of each number were provided.

Spring balance for weighing loads and specimens.

Taxidermists' knives.

Several cheap skinning knives of good quality steel for use by natives.

Note books.

Two steel tapes—10 feet.

Extra pocket whetstones.

Two dozen large, blanket safety pins.

Chewing gum is a great help in climbing and where water is scarce.

The large matches easily obtainable only in the United States are very desirable, and should be packed in a tin box with a screw top.

Flash lights—electric. Focussing lights, using three cells, are preferable.

Extra batteries, wrapped in canvas and waterproofed with shellac.

Extra bulbs.

Neatsfoots oil, for shoes (cannot be bought in Kashmir)

Waterproof pocket matchboxes.

Many small articles have been omitted from this list. Any experienced traveller will know what to include.

APPENDIX II

PROVISIONS

Our provisions, with a few exceptions, were purchased from the standard list prepared by Cockburn's Agency.

Among the exceptions were the following:

- 24 1 lb. cakes sweet chocolate (London). (Not enough)
- 1 Gross—Baked beans—1 lb. tins. (Kept as emergency rations for use when other supplies were difficult to obtain)
- Tinned butter (London)
- G. Washington powdered coffee. (New York)
- Prepared army rations. (London)
- Standard brands of English tobacco and cigarettes are obtainable in Kashmir.

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